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VENTURE CAPITAL/PRIVATE EQUITY AND THE TRADE-OFF BETWEEN FAMILY AND ECONOMIC GOALS IN FAMILY FIRMS

EL CAPITAL RIESGO Y LA ELECCION ENTRE OBJETIVOS DE LA FAMILIA Y OBJETIVOS ECONOMICOS EN EMPRESAS FAMILIARES

MEMORIA PARA OPTAR AL GRADO DE DOCTOR
PRESENTADA POR

Olaf Matthaeus Rottke Becker

Bajo la dirección de los doctores

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Venture Capital/Private Equity and the trade-off between family and economic goals in Family Firms

El Capital Riesgo y la eleccion entre objetivos de la familia y objetivos economicos en empresas familiares

PhD THESIS
DOCTORAL DEGREE IN 'FINANZAS DE EMPRESA'

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A mi familia,
mis padres, Martin, Doerte,
Alexandra, Lea y Ole, a quienes
debo todo lo que soy

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EXECUTIVE SUMMARY

1. INTRODUCTION

Family-controlled businesses (FCBs, henceforth) are the most prevalent type of business in most countries worldwide and are responsible for a major part of gross domestic product, growth acceleration and sustainability in their economies (Schulze, Lubatkin, Dino, & Buchholtz, 2001; Anderson & Reeb, 2003; Gomez-Mejia, Haynes, Nuñez-Nickel, Jacobsen, & Moyano-Fuentes, 2007). FCBs are widespread across business cycles, firm age and size. Although they are often popularly connected with 'the small firm with some employees around the corner', in most countries large FCBs play an important role. In Spain, El Corte Ingles, Banco Santander or ACS, among others, are well known examples. Similarly, in Germany we could cite Volkswagen, Schaeffler or Henkel.

Research has lacked a common model to describe the factors that describe the 'familiness' of FCBs. It is also difficult to find a commonly accepted definition of FCBs. Different attempts to define FCBs can be found in Handler (1989), Habbershon and Williams (1999), Shanker and Astrachan (1996), Astrachan, Klein, and Smyrnios (2002), Miller, Le Breton-Miller, Lester, and Canella Jr. (2007), or Cruz, Gomez Mejia, and Becerra (2010), among others. Additionally, due to data constraints, researchers often formulate specific definitions of FCBs serving their research purposes. For this reason the results of studies focusing on FCBs are not always easy to compare.

The role of emotions and other linked characteristics that are not measurable in a quantitative study have not been included in most definitions,

though in the last decade there was some progress on this issue. Gomez-Mejia et al. (2007) marked fundamental progress in research. They integrated behavioral theory into family firm research and focused on possible reasons for family principals' behavior. They create the socioemotional wealth model to describe 'familiness' (Gomez-Mejia, Cruz, Berrone, & de Castro, 2011). This new model has rapidly reached acceptance since its publication in the literature. The authors use a sample of Spanish family firms of a simple but comparable type, namely olive oil mills. This allows them to concentrate on the central research questions without the distortion of firm diversity.

In this framework, we should highlight that FCBs face important challenges such as growth and succession. In the initial phase after the foundation of a business, FCBs first use their internal resources to make it grow. They usually prefer to maintain control while neglecting external financing. This often limits the capacity to take advantage of their growth opportunities. Growth thus depends on the availability of external resources to finance investment activities, particularly in young and small firms. Financial shortage is often accompanied by a lack of experience in succession planning, which further limits growth potential and future survival of FCBs. FCBs have to decide between family members' personal goals and firm's economic and financial goals. Their wish to maintain control and stakes within the family across the generations makes FCBs reluctant to seek external financing and limits firms' success. The wish to accomplish the transfer of stakes and management to subsequent generations additionally limits the access to a pool of professional managers and, hence, affects FCBs' performance.

Venture capital and private equity (Hereinafter, VC/PE) is a pool of capital mainly provided by institutional investors and managed by professionals that is invested in businesses with high potential and high risk (Sahlman, 1990). VC/PE investors are used to reducing agency costs and information asymmetries as inside investors (Admati & Pfleiderer, 1994). VC/PE offer not only capital but also value-adding services. They are more willing to take risks and offer value-adding support that leads to improvements in efficiency (Chemmanur, Krishnan, & Nandy, 2011). As financial intermediaries (Chan, 1983), they also help in mitigating financial constraints in growing firms (Bertoni, Ferrer, & Martí, 2013). Therefore, they seem to be an optimal partner for FCBs. Despite their importance, FCBs have been underrepresented in VC/PE portfolios until now (Martí, Menéndez, & Rottke, 2013) and there is a gap in research aimed at understanding the limited presence of FCBs in the portfolios of VC/PE institutions.

This research aims to contribute to filling this gap and to shed light on the interaction between FCBs and VC/PE and how the latter can create value in FCBs. The analyses carried out in this study are based on a representative sample of unlisted Spanish FCBs in which a VC/PE firm invested in. Although mature firms are included, there is a special focus on firms at the expansion stage, as growth and succession play a major role and deserve the closest attention to ensure their sustainable survival. Data on the pre-investment period is used to analyze the motives for approaching VC/PE, whereas data on the post-investment period is used to highlight the impact of VC/PE on the investee firms.

Data about VC/PE investment was obtained from the Spanish Venture Capital and Private Equity Association (ASCRI) and www.webcapitalriesgo.com. The accounting and ownership information was taken from the AMADEUS Database and the official Trade Registers. Additionally, a sample of non-VC/PE financed FCBs was taken from the AMADEUS Database.

Based on the existing framework for describing familiness, two analyses are made to test the first central research question, namely what leads FCBs to approaching VC/PE financing. We assume that low performance may lead to a shift of family preferences that eliminates the reluctance to access external funding when the survival of the firm is at risk.

We first measure performance by analyzing total factor productivity. We argue that those FCBs exhibiting low productivity growth could be anticipating problems endangering the future survival of the firm. But, since low productivity could be indicating an imbalance between inputs and outputs, we also resort to investment cash flow sensitivity as a proxy for financial constraints, which reflects the need for external financing in the short term.

Secondly, we analyze the performance of FCBs after the initial VC/PE investment. We find that FCBs significantly increase productivity in their investee firms. Similarly, those firms exhibit a decrease in the dependency of investments to internally generated cash flows. These findings are highly significant in first generation FCBs.

Nevertheless, even though VC/PE involvement leads to faster growth, we find that a minority or majority share held by the VC/PE investor affects

the rate of growth of the investee firm. In this regard, we find that VC/PE-backed non-FCBs grow faster than VC/PE FCBs when the investor holds a minority share, whereas no differences are found when the investor holds a majority share. The empirical demonstration of the role of productivity and financial constraints as proxies for FCBs' decision-making processes is a significant contribution to family business literature. It contributes to the discussion about the relation between family and financial goals and outlines circumstances under which a shift in the prevalence of family goals over financial goals can be expected. A second contribution is the additional evidence on the positive effect of VC/PE involvement on investee firms. In addition, performance differences between minority and majority shareholdings of VC/PE investors in FCBs underline the need to address the problems deriving from the conflict between family and investors' management cultures.

This Ph.D. thesis is organized as follows. Chapter 1 outlines the framework of analysis of the research, whereas chapters 2 to 4 include three empirical research pieces. In chapters 2 and 3 we analyze potential reasons that explain when the reluctance of FCBs to access external sources of funds disappears. These chapters also provide evidence of the positive post-investment evolution of investee firms, especially in first generation FBCs. Chapter 4 focuses on the different effect of VC/PE involvement depending on the minority or majority shareholding of the VC/PE firm. The final chapter outlines the main findings and contributions to the literature and includes the main limitations as well as ideas for future research on this topic.

2. DESCRIPTION OF CONTENTS

CHAPTER 1

The first subsection of chapter 1 introduces the concept of FCBs, as well as the components of familiness, and frames conditions for their business challenges and decisions. The role VC/PE institutions can play in their investee firms is described in the second subsection. In addition to screening, the positive effect exerted on the investee firm is marked by funding but also by added value. The limiting factors contributing to the reluctance of FCBs to approach external financing are critically reviewed in the light of current research and the incentives for this study are outlined in the third section. Furthermore the causality of VC/PE impact is described in the context of the distinctive characters of FCBs and the motives and challenges for the cooperation from a VC/PE perspective are highlighted as well as obstacles to be overcome, like pricing.

CHAPTER 2

In chapter 2 we analyze why VC/PE investors are accepted as shareholders in first generation FCBs from the perspective of owners' socioemotional wealth (SEW). We argue that family owners overcome their natural reluctance to accept an external shareholder to protect their SEW, because the future of the company could be in danger. In addition, we aim to analyze the impact of VC/PE involvement in FCBs in first and second or subsequent generations. We anticipate that the value-adding effects of VC/PE involvement should be more effective in first generation FCBs because the management culture is not as established, ownership dispersion is lower and the entrepreneurial orientation is higher than in FCBs in second or following generations.

We resort total factor productivity (hereinafter, TFP) growth to measure performance, estimated as suggested by Blundell and Bond (2000). In addition, we follow Chemmanur et al. (2011) and Croce, Martí, and Murtinu (2013) to analyze productivity growth before and after the initial VC/PE investment.

We focus our analyses on a large sample of VC-backed FCBs and non-FCBs that received VC/PE funding between 1995 and 2005. Our results show that VC/PE institutions choose first generation FCBs showing significantly lower TFP growth levels than those found in non-FCBs or in FCBs in second or following generations. After the entry of the VC/PE investor, as expected, TFP growth is positive and significant in first generation FCBs, both in the long term and in the short term. The use of TFP allows us to control for the other

possible explanation for better performance (i.e. the funding received) of the investee firm, because we have already proved that first generation FCBs were not better than the rest of the investee firms. Therefore, we can explain the improved performance by the value-adding effect of VC/PE involvement, which is effective in improving the entrepreneurial orientation of the FCB managers. In addition, we find evidence of a greater effect on performance in first versus second or subsequent generations, which could be based on lower agency conflicts and higher entrepreneurial orientation in first generation FCBs. We argue that these reasons determine more room for performance improvement in the first generation.

This chapter was presented as a paper co-authored with Annalisa Croce (Politecnico Di Milano) and José Martí (Universidad Complutense de Madrid) at the 2012 European Financial Management Association (EFMA) Annual Conference (Barcelona, June 2012) and at the European Institute for Advanced Studies in Management (EIASM) 8th Workshop on Family Firms Research (Jönköping, 2012), where it was included in the shortlist for the IFERA-Best Paper Award, and published in their proceedings. Furthermore it was accepted at the European Academy of Management (EURAM) Annual Conference (Amsterdam, 2012).

CHAPTER 3

The findings of the second chapter leave some questions open. VC/PE managers are specialized investors with superior screening abilities (Sahlman, 1990) that would not invest in low performing firms. Nevertheless, since productivity measures an increase in outputs relative to an increase in inputs,

we argue that low TFP growth found in first generation FCBs could be caused by an imbalance between inputs and outputs. In this way, low TFP could be indicating that the increase in inputs has not yet resulted in an increase in outputs thus signalling a problem of financial constraints.

We analyze investment sensitivity to internally generated resources as a reference of financial constraints in unlisted FCBs that could lead to this financial hardship. We argue that highly constrained FCBs will be more inclined to accept the entry of external shareholders such as VC/PE institutions. In addition, we aim to check to what extent VC/PE involvement affects the existing dependency of investments on internally generated cash flows. We based our analyses on the Euler equation (Bond & Meghir, 1994), which allows us to control for growth opportunities and the use of debt.

The scope of analysis is a sample of unlisted Spanish VC-backed FCBs that received VC/PE investment between 1995 and 2006. We analyze the investment sensitivity to cash flows before and after the initial VC investment.

We find evidence of significant sensitivity of investments to cash flows before the initial VC/PE investment in all FCBs that received a VC/PE investment later. This dependency is also significant in first generation control group FCBs, but not in descendant generation control group FCBs. In addition, financial constraints are significantly higher in first generation VC/PE-backed FCBs than in similar control group firms. Despite their natural reluctance to accept external shareholders, we argue that the former accept the entry of a VC firm to carry out investments that are necessary for survival: this is in line with Poutziouris (2000), who affirms that a percentage of FCBs are willing to

access external sources to grow faster. In descendant generation VC/PE-backed firms the results are not conclusive because it is more likely that some of them may approach VC/PE firms to find an exit for some/all shareholders rather than to finance growth.

Regarding the effect of VC/PE involvement on financial constraints we find that, despite the lower investment-cash flow sensitivity, the dependency is not fully eliminated in VC/PE-backed FCBs but those firms are no longer more financially constrained than other non VC-backed FCBs. This finding holds for the whole sample and for the subsample of first generation FCBs. We argue that the sensitivity is not eliminated because the presence of VC investors will positively affect a growth-seeking attitude in the firm and investments will increase more than family shareholders initially planned.

This chapter was presented as a paper co-authored with Annalisa Croce (Politecnico Di Milano) and José Martí (Universidad Complutense de Madrid) at the 2013 European Financial Management Association (EFMA) Annual Conference (Reading, June 2013) and at the 2013 International Family Enterprise Research Academy (IFERA) Annual Conference (St. Gallen, June 2013), and published in their proceedings. Furthermore it was accepted at the European Institute for Advanced Studies in Management (EIASM) 9th Workshop on Family Firms Research (Helsinki, May 2013).

CHAPTER 4

In the third empirical work we explore different growth patterns in family vs. non-family VC/PE-backed firms when investors hold either a majority or a minority position. We hypothesize slower growth in FCBs when

compared to non-family businesses if the VC/PE firm holds a minority stake and non-significant differences when the VC/PE firm becomes a controlling stakeholder in the investee firm. We expect that minority VC stakes in family businesses hinder strategic decisions because two very different management cultures overlap. In this vein, the risk-aversion attitude predicted by agency theory in FCBs may create barriers for growth-oriented strategies that VC/PE managers aim to develop. Nevertheless, we expect no differences from non-family businesses when the VC/PE firm takes a controlling position, since the acquirer's management tradition will replace the existing family's management culture. In this way, conflicts between both management traditions are less likely to occur, albeit the investee firm may lose part, or all, of the value related to the family reputation. We test the hypotheses proposed on a unique sample of Spanish VC investments made between 1995 and 2004.

In accordance with the hypotheses proposed, our results show significant differences in the growth patterns found in family and non-family investee firms, with the latter showing statistically higher growth rates in firms where VC/PE firms held minority stakes. No differences were found between family and non-family firms' growth when the VC/PE investor acquired a controlling stake in the investee firm. To sum up, VC/PE is an alternative way to fund family firm growth and to solve succession and other conflicts among heirs, even though the impact is lower than that found in other non-family investee firms when the VC firm holds minority stakes.

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3. CONCLUSIONS

The first aim of this study is to highlight the motivation for family principals to set different preferences between socioemotional "family" and financial goals. Only in the case of poor performance do financial goals become more salient. Since the desire to preserve SEW is highest in first generation FCBs, in the first two empirical works of this thesis we find that only first generation FCBs with low performance are more likely to approach VC/PE investors and this low performance is explained by the existence of financial constraints.

In addition, we also aim to analyze the effect of VC/PE involvement in investee FCBs. Our results show a positive effect of VC/PE investments in FCBs, especially in the first generation. Nevertheless, we also find that the impact of investors' involvement in FCBs could change depending on the minority or majority shareholding of VC/PE firms. A minority stake might not allow them to carry through necessary changes and activities to lead the firm to new growth paths, whereas a majority stake enables them to do so with the necessary power to decide and select adequate growth strategies.

This work contributes to the previous literature in several ways. Firstly, it develops a young stream of literature including behavioural and corporate finance issues in FCBs. The prevalence of socioemotional wealth preservation

over financial goals is highlighted in FCBs. But this prevalence changes when firm survival is at risk. We provide insights on the motives family principals have to approaching external investors. Secondly, we provide insights on the positive effect of VC/PE involvement of FCBs, especially in the first generation. Thirdly, we highlight difficulties VC/PE investors may face when investing in FCBs, especially when they hold minority stakes.

Future research should investigate further the reasons why FCBs do or do not approach VC/PE institutions, with a generational perspective, completing the initial evidence found in our empirical works. More research is also required on the evidence found of low performing first generation FCBs accessing VC/PE financing, because VC/PE institutions show superior screening abilities and would not be expected to invest in poorly performing firms. We argue that low productivity growth could indicate that those FCBs accessing VC/PE are financially constrained but other reasons related to family characteristics should also be investigated.

As main limitations, we should mention that the scope of this study is limited to only one country. Even though the approach reduces heterogeneity across sample firms and the impact of environmental issues, the sample size is not large enough to provide more evidence on the research questions analyzed.

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RESUMEN

1. 1. Introducción

Las empresas familiares (en adelante, EF) constituyen el tipo de empresa más extendido en la mayoría de los países e influyen en gran medida en el producto interior bruto, en el crecimiento y en la sostenibilidad de sus economías (Schulze, Lubatkin, Dino, & Buchholtz, 2001; Anderson & Reeb, 2003; Gomez-Mejia, Haynes, Nuñez-Nickel, Jacobsen, & Moyano-Fuentes, 2007). Este tipo de empresas está presente en todas las fases del ciclo económico, tienen una mayor o menor antigüedad y puede ser de cualquier tamaño. En la cultura popular a menudo se asocian al "pequeño comercio de barrio". No obstante, en muchos países existen grandes empresas familiares con un papel esencial. En España, existen ejemplos bastante conocidos, como El Corte Inglés, Banco Santander o ACS, entre otras. De igual modo, en Alemania podríamos citar a Volkswagen, Schaeffler o Henkel.

Durante mucho tiempo las investigaciones sobre EF han carecido de un modelo común para describir los factores que describen el "carácter familiar". También es difícil encontrar una definición de EF aceptada a nivel general. Se han realizado distintos intentos por establecer una definición de EF, entre otros los de: Handler (1989), Habbershon y Williams (1999), Shanker y Astrachan (1996), Astrachan, Klein, y Smyrnios (2002), Miller, Le Breton-Miller, Lester, y Canella Jr. (2007), o Cruz, Gomez Mejía y Becerra (2010). Además, la falta de datos provoca que los investigadores suelan formular definiciones específicas de EF que resulten apropiadas para los objetivos de

sus investigaciones. A causa de esto, no siempre es fácil comparar los resultados de los distintos estudios centrados en las EF.

El papel que representan las emociones y otras características asociadas, no cuantificables en un estudio cuantitativo, no se ha tenido en cuenta en la mayoría de estas definiciones, aunque durante la última década se han realizado ciertos avances en esta materia.

Gomez-Mejía et al. (2007) consiguieron un progreso fundamental en la investigación. Los autores integraron la teoría del comportamiento en la investigación sobre empresas familiares, centrándose en las posibles razones que determinaban el comportamiento de los administradores de empresas familiares. Crearon un nuevo modelo de riqueza socioemocional para describir el"carácter familiar" (Gomez-Mejia, Cruz, Berrone, & de Castro, 2011), que ha gozado de una rápida aceptación desde su publicación. Para ello, utilizan como ejemplo de empresas familiares españolas un tipo simple, pero comparable: los molinos de aceite de oliva. Esto les permite concentrarse en las cuestiones clave de la investigación, prescindiendo del sesgo que provoca la diversidad de empresas.

En este contexto, sería necesario resaltar que las EF se enfrentan a retos importantes, como el crecimiento o la sucesión. En la fase inicial que sucede al establecimiento de una empresa, las EF utilizan en primer lugar recursos internos para conseguir crecimiento. Normalmente, prefieren conservar el control y evitar la financiación externa, rasgo que suele limitar su capacidad para aprovechar sus oportunidades de crecimiento. Así, el crecimiento depende de la idoneidad de los recursos externos para financiar actividades de inversión, en particular en el caso de pequeñas y medianas

empresas y empresas jóvenes. La precariedad financiera a menudo va acompañada de la falta de experiencia en la planificación de la sucesión, factor que también reduce las posibilidades de crecimiento y de supervivencia de las EF. Estas tienen que decidir entre los objetivos personales de los miembros de la familia y los objetivos económicos y financieros de la empresa. La voluntad de mantener el control y la participación de las siguientes generaciones familiares en la empresa les hace desconfiar de la financiación externa y dificulta el éxito de la empresa. Este deseo de lograr el traspaso de la participación y de la gestión a las generaciones siguientes limita asimismo el acceso a un conjunto de gestores profesionales y, por tanto, afecta al rendimiento de la EF.

El capital riesgo (en adelante, CR) son fondos de capital aportados por inversores institucionales y gestionados por profesionales que se invierten en empresas con gran potencial y alto riesgo (Sahlman, 1990). Los inversores de CR se utilizan para reducir los costes de transacción y las asimetrías de información como inversores internos. Parecen ser, por tanto, un socio óptimo para las empresas familiares (Admati & Pfleiderer, 1994). El CR no solo ofrece capital, sino también servicios con valor añadido. Estos inversores están más predispuestos a asumir riesgos y ofrecen un soporte de valor añadido que se traduce en mejoras de la eficiencia (Chemmanur, Krishnan, & Nandy, 2011). Como intermediarios financieros (Chan, 1983), también contribuyen a atenuar las dificultades económicas de las empresas en crecimiento (Bertoni, Ferrer, & Martí, 2013) y, por tanto, resultan un socio óptimo para las EF. A pesar de su importancia, hasta ahora las EF han tenido escasa representación en las carteras de CR (Martí, Menéndez, & Rottke, 2013) y existe un vacío en las

investigaciones centradas en determinar el porqué las EF cuentan con una presencia tan limitada en las carteras de instituciones de CR.

Este trabajo de investigación pretende contribuir a cubrir este hueco, así como a aclarar algunos aspectos de la interacción de las EF con el CR y el modo en que estos pueden crear valor en las EF. Los análisis realizados en este estudio se basan en una muestra representativa de EF españolas no cotizadas en las que invirtió alguna firma de CR. Aunque también se incluyen empresas maduras, se hace hincapié en las que se encuentran en fase de expansión, ya que en estos casos el crecimiento y la sucesión son factores esenciales y se les debe otorgar la máxima atención para garantizar que sigan siendo sostenibles. Los datos del periodo anterior a la inversión se utilizan para analizar los factores que llevaron a la empresa a interesarse por el CR, mientras que los datos posteriores a la misma muestran el impacto del CR en las empresas en las que se ha invertido.

Los datos sobre inversiones de CR se obtuvieron de la Asociación Española de Entidades de Capital Riesgo (ASCRI) y www.webcapitalriesgo.com. La información sobre propiedad y contabilidad se extrajo de la base de datos AMADEUS y de los Registros Mercantiles públicos. Asimismo, también se extrajo de la base de datos AMADEUS una muestra de EF no financiadas con CR.

Partiendo de la estructura que describe el carácter familiar, se hacen dos análisis para responder a la primera cuestión central de la investigación, esto es, el motivo por el que las EF acuden a una entidad de CR. Se asume que unos rendimientos bajos pueden favorecer un cambio en el

comportamiento de la familia que elimine las reticencias a acceder a financiación externa cuando peligre la supervivencia de la empresa.

En primer lugar, se mide el rendimiento a través de la productividad total de los factores (en adelante, PTF). Creemos que las EF que presentan un bajo crecimiento de la productividad podrían estar anticipando problemas que amenacen la propia existencia futura de la empresa. Sin embargo, puesto que una productividad baja puede indicar un desequilibrio entre aportaciones y resultados, también se recurre a la sensibilidad de la inversión al flujo de caja como indicador de restricción financiera, que pone de manifiesto las necesidades de financiación externa a corto plazo.

En segundo lugar, se analiza el rendimiento de las EF tras la financiación inicial con CR. Se concluye que las EF aumentan significativamente la productividad en sus empresas participadas. De igual modo, esas empresas reflejan una disminución de la dependencia de inversiones para los flujos de caja que se generen internamente. Estas conclusiones resultan muy significativas en el caso de EF de primera generación.

No obstante, aunque la presencia del CR genere un mayor crecimiento, se ha descubierto que el simple hecho de que el inversor de CR ostente una participación minoritaria o mayoritaria influye sobre la tasa de crecimiento de la empresa participada. En este sentido, se descubre que las empresas no familiares respaldadas por CR presentan un crecimiento más rápido que las EF de CR en aquellos casos en los que el inversor cuenta con una participación minoritaria, mientras que no se obtuvieron diferencias cuando el inversor ostenta una participación mayoritaria. La demonstración empírica de la

importancia de la productividad, así como la de las dificultades financieras como indicadores de los procesos decisorios de las EF, constituye una contribución fundamental para la literatura sobre EF. Esto supone una importante contribución a la discusión existente sobre la relación entre los objetivos familiares y financieros y podría así mismo subrayar las circunstancias bajo las que puede esperarse un cambio en la prevalencia de los objetivos familiares sobre los financieros. Una segunda contribución son las pruebas adicionales del efecto positivo de contar con CR sobre las empresas participadas. Además, las diferencias observadas en el rendimiento de las cuotas de inversión de CR minoritarias y mayoritarias en las EF ponen de manifiesto la necesidad de abordar los problemas derivados del conflicto entre las culturas de gestión familiares y de los inversores.

Esta tesis doctoral sigue el esquema siguiente: el capítulo 1 presenta el marco de análisis de la investigación, mientras que los capítulos 2 a 4 incluyen tres estudios empíricos. En los capítulos 2 a 3 se analizan las hipótesis que explicarían cuándo desaparecen las reticencias a acceder a fuentes de financiación externa. Estos capítulos también ofrecen pruebas concretas de la positiva evolución que protagonizan las empresas participadas tras la inversión, especialmente en EF de primera generación. El capítulo 4 se centra en los distintos efectos que genera la presencia de CR en función de la cuota de participación minoritaria o mayoritaria de la empresa de CR. En el capítulo final se destacan las principales conclusiones y contribuciones a la literatura, incluyendo además las limitaciones principales, así como ideas para futuras investigaciones en este campo.

2. 2. Contenido de la investigación

2.1 Capítulo 1

El primer subapartado del capítulo 1 presenta el concepto de EF, así como los componentes que definen el carácter familiar, y enmarca los condicionantes de sus retos y decisiones empresariales. La función que las instituciones de CR pueden desempeñar en sus participadas se describe en el segundo subapartado. Además del efecto de un adecuado análisis para la selección de las empresas participadas, el efecto positivo ejercido sobre la éstas está marcado por la financiación, pero también por el valor añadido por los inversores de CR. Los factores que contribuyen a la reticencia de las EF a buscar financiación externa se revisan en el tercer apartado desde una perspectiva crítica, a tenor de las actuales investigaciones, y se exponen los incentivos de este estudio. Asimismo, en el contexto de los caracteres distintivos de las EF se describe la causalidad de las repercusiones del CR y se ponen de relieve las motivaciones y retos que se plantean a la cooperación desde una perspectiva del CR, así como los obstáculos que hay que superar, como por ejemplo la definicion del precio adecuado de la empresa.

2.2 Capítulo 2

En el capítulo 2, analizamos por qué se acepta a los inversores de CR como accionistas en las EF de primera generación, desde la perspectiva de la riqueza socioemocional de los propietarios. Defendemos que los propietarios de negocios familiares superan su reticencia natural a aceptar a un socio externo para proteger su riqueza socioemocional, ya que consideran que el futuro de la compañía podría estar en peligro. Además, nuestro objetivo es analizar el impacto del CR en las EF de primera y segunda generación o posteriores. Se prevé que los efectos de valor añadido de la participación de CR deberían ser más eficaces en las EF de primera generación, ya que su cultura de administración no está tan arraigada, la dispersión de la propiedad es menor y la orientación empresarial es más fuerte que en las EF de segunda generación o subsiguientes.

Recurrimos al crecimiento de la PTF para cuantificar el rendimiento, estimado según sugieren Blundell y Bond (2000). Además, seguimos a Chemmanur et al. (2011) y a Croce, Martí y Murtinu (2013) para analizar el crecimiento de la productividad antes y después de la inversión inicial de CR.

Centramos nuestros análisis en una amplia muestra de EF respaldadas con CR y empresas no familiares que recibieron financiación de CR entre 1995 y 2005. Nuestros resultados revelan que las instituciones de CR invierten en EF de primera generación que presentan unos niveles de crecimiento de la PTF significativamente inferiores a los de las empresas no familiares o a las de segunda o posteriores generaciones. Tras la entrada del inversor de CR, tal y como se preveía, el crecimiento de la PTF es positivo y significativo en las EF

de primera generación, tanto a largo como a corto plazo. El uso de la PTF nos permite controlar la otra explicación alternativa que justificaría un mejor rendimiento (es decir, la financiación recibida) de la empresa participada, puesto que ya hemos demostrado que las EF de primera generación no eran mejores que el resto de las empresas participadas. Por lo tanto, podemos explicar la mejora del rendimiento gracias al efecto del valor añadido de la participación de CR, que resulta eficaz para mejorar la orientación empresarial de los administradores de la EF. Además, hemos obtenido evidencia de que se registra un mayor efecto sobre el rendimiento en la primera generación, con respecto a la segunda o posteriores generaciones. Esto es debido probablemente a una menor cantidad de conflictos dirección-agencia y a una mayor orientación empresarial de las EF de primera generación. Sostenemos que estas razones determinan la existencia de un margen más amplio para la mejora del rendimiento en la primera generación.

Este capítulo fue presentado, junto a Annalisa Croce (Politecnico Di Milano) y José Martí (Universidad Complutense de Madrid), en el Congreso Anual de 2012 de la *European Financial Management Association* (EFMA) (Barcelona, junio de 2012) y en el Instituto Europeo de Estudios Avanzados en Gestión (EIASM), 8º Taller de Investigación sobre EF (Jönköping, 2012), donde fue candidato al Premio al mejor artículo IFERA (Congreso Internacional de Empresa Familiar) y publicado en sus *proceedings*. Además, fue aceptado en la Conferencia Anual de la Academia Europea de Gestión (EURAM) (Ámsterdam, 2012).

2.3 Capítulo 3

Los resultados del segundo capítulo dejan abiertos algunos interrogantes. Los administradores de CR son inversores especializados con excelentes capacidades de análisis (Sahlman, 1990) que no invertirían en empresas de bajo rendimiento. No obstante, dado que la productividad mide un aumento de los resultados en relación con un aumento de las aportaciones, defendemos que el bajo crecimiento de la PTF hallado en las EF de primera generación podría deberse a un desequilibrio entre las entradas y las salidas que se comparan al calcular la productividad resultados. De este modo, una baja PTF podría ser indicativa de que el aumento de las entradas todavía no se ha traducido en un aumento de los resultados, señalando un problema de dificultades financieras.

Analizamos la sensibilidad de la inversión respecto a los recursos generados internamente como referencia de dificultades financieras en EF no cotizadas, como causa de las dificultades económicas. Argumentamos que las EF con grandes dificultades están más dispuestas a aceptar la entrada de accionistas externos, como instituciones de CR. Además, pretendemos comprobar hasta qué punto la entrada del CR afecta a la dependencia actual de las inversiones en los flujos de efectivo generados internamente. Basamos nuestros análisis en la ecuación de Euler (Bond & Meghir, 1994), que nos permite controlar las oportunidades de crecimiento y el uso de la deuda.

El alcance del análisis es una muestra de EF españolas no cotizadas con financiación de capital riesgo que recibieron inversiones de CR entre 1995 y 2006. Analizamos la sensibilidad de la inversión a los flujos de caja antes y

después de la inversión inicial de CR. Encontramos evidencia de una sensibilidad significativa de las inversiones respecto a los flujos de caja antes de la inversión inicial de CR en todas las EF que posteriormente recibieron CR. Esta dependencia también resulta significativa en las EF de primera generación incluidas en el grupo de control, pero no en las EF de siguientes generaciones del mismo grupo. Además, las dificultades financieras son significativamente mayores en las EF de primera generación con financiación de CR que en empresas similares del grupo control. A pesar de su reticencia natural a aceptar socios externos, sostenemos que éstas aceptan la entrada de una entidad de CR para llevar a cabo las inversiones necesarias para su supervivencia futura. Esta conclusión coincide con la opinión de Poutziouris (2000), quien afirma que un porcentaje de EF están predispuesto a acceder a fuentes externas para crecer con mayor rapidez. En las siguientes generaciones de empresas con financiación de CR los resultados no son concluyentes, ya que es más probable que en algunos casos recurran a entidades de CR a fin de encontrar una salida para algunos/todos los socios, más que para financiar su crecimiento.

En cuanto al efecto de la participación de CR sobre las dificultades económicas, descubrimos que, a pesar de la menor sensibilidad de las inversiones al flujo de caja, la dependencia no queda totalmente eliminada en EF con respaldo de CR, pero dichas empresas no presentan ya más restricciones financieras que otras EF sin apoyo del CR. Esta conclusión es válida para toda la muestra, así como para las submuestras de EF de primera generación. Aducimos que la sensibilidad no queda eliminada porque la presencia de los inversores de CR tendrá un efecto positivo, con una actitud de

búsqueda de crecimiento en la empresa, y las inversiones aumentarán más de lo que los socios familiares habían previsto inicialmente.

Este capítulo se presentó, junto a Annalisa Croce (Politecnico Di Milano) y José Martí (Universidad Complutense de Madrid), en el Congreso Anual de 2013 de la EFMA (Reading, junio de 2012) y en el Congreso Anual de la Academia de Investigación Internacional de Empresa Familiar (IFERA) (St. Gallen, junio de 2013) y publicado en sus *proceedings*. Asimismo fue aceptado en el Instituto Europeo de Estudios Avanzados de Gestión (EIASM), en el marco del 9º Taller de Investigación en EF (Helsinki, 2013).

2.4 Capítulo 4

En el tercer trabajo empírico exploramos los diferentes patrones de crecimiento en las empresas con financiación de CR, tanto familiares como no familiares, cuando los inversores ostentan una posición mayoritaria o minoritaria. Planteamos la hipótesis de un crecimiento más lento en las EF, en comparación con los negocios no familiares, si la entidad de CR tiene una participación minoritaria; mientras que no se esperan diferencias significativas cuando la entidad de CR se convierte en socio mayoritario en la empresa participada. Prevemos que las participaciones de CR minoritarias en EF dificultarían las decisiones estratégicas, debido a la superposición de dos culturas directivas muy diferentes. En este sentido, la actitud de aversión al riesgo pronosticada por la teoría de la agencia en las EF puede suponer una barrera a la hora de adoptar las estrategias orientadas al crecimiento que los administradores de entidades de CR puedan tener como objetivo desarrollar. Sin embargo, no esperamos que existan diferencias con respecto a las

empresas no familiares cuando la entidad de CR ostenta una posición de control, ya que la tradición directiva de la entidad adquirente sustituirá a la cultura directiva de la familia en cuestión. De esa manera, es menos probable que surjan conflictos entre ambas culturas, aunque la empresa participada podría perder parte, o la totalidad, del valor derivado de la reputación familiar. Ponemos a prueba las hipótesis propuestas en una muestra única de inversiones de CR españolas realizadas entre 1995 y 2004.

De acuerdo con las hipótesis propuestas, nuestros resultados revelan unas diferencias significativas en los patrones de crecimiento de las empresas participadas familiares y no familiares: estas últimas presentan unas tasas de crecimiento estadísticamente muy superiores en los negocios en los que las empresas de CR poseían una participación minoritaria. No se encontraron diferencias en el crecimiento de EF y no familiares cuando el inversor de CR adquirió una participación mayoritaria en la empresa participada. En resumen, el CR es una modalidad alternativa para financiar el crecimiento de las EF y resolver los conflictos de sucesión y de otra índole suscitados entre herederos, a pesar de que la repercusión es menor que en otras empresas no familiares participadas cuando la entidad de CR solo adquiere participaciones minoritarias.

Este capítulo fue presentado, junto con Susana Menéndez-Requejo (Universidad de Oviedo) y José Martí (Universidad Complutense de Madrid), en el Instituto Europeo de Estudios Avanzados en Gestión (EIASM) en el marco del 6º Taller de Investigación en EF (Barcelona, 2010) y en el certamen de 2011 de la Conferencia Anual de la Academia de Investigación Internacional de Empresa Familiar IFERA (Sicilia, 2011). Además, este artículo fue publicado

en 2013 en el *Journal of World Business* (JCR, con un factor de impacto de 2,383 en 2011).

3. 3. Conclusiones

El primer objetivo de este trabajo consiste en destacar la motivación de los administradores de empresas familiares a la hora de establecer la prelación entre las preferencias "socioemocionales" de la familia y los objetivos financieros. Los objetivos financieros pasan a cobrar mayor relevancia sólo en caso de que se registre un escaso rendimiento que pueda poner en peligro la supervivencia futura de la empresa. Dado que el deseo de preservar la riqueza socioemocional es mayor en las EF de primera generación, en los dos primeros estudios empíricos de esta tesis descubrimos que sólo las EF de primera generación con bajos rendimientos son más propensas a asociarse a inversores de CR y este bajo rendimiento se explica por la existencia de dificultades de carácter financiero.

Además, también nos marcamos el objetivo de analizar el efecto de la participación del CR en las EF participadas. Nuestros resultados ponen de manifiesto la existencia de un efecto positivo de las inversiones de CR en las EF, especialmente en la primera generación. No obstante, también descubrimos que el impacto de la participación de los inversores en este tipo de negocios podría variar en función de la participación mayoritaria o minoritaria que tuvieran las empresas de CR. Una participación minoritaria podría no permitirles llevar a cabo las modificaciones y actividades necesarias para conducir a la empresa hacia nuevas vías de crecimiento, mientras que

una participación mayoritaria les permitiría hacerlo con la competencia necesaria para decidir y seleccionar las estrategias de crecimiento adecuadas.

Este trabajo contribuye a la literatura previa en varios sentidos. En primer lugar, desarrolla una corriente bibliográfica moderna que contempla las cuestiones relativas a las finanzas corporativas y el comportamiento societario en las EF, destacando la prevalencia de preservar la riqueza socioemocional por encima de los objetivos financieros. Sin embargo, esta prevalencia cambia cuando la supervivencia de la empresa está en riesgo. Ofrecemos una visión general sobre los principales motivos por los que los administradores de EF acuden a inversores externos. En segundo lugar, ofrecemos nuevas perspectivas sobre el efecto positivo de la participación del CR en las EF, especialmente en la primera generación. En tercer lugar, ponemos de relieve las dificultades con las que se podrían enfrentar los inversores de CR al invertir en EF, especialmente cuando poseen participaciones minoritarias.

Las futuras investigaciones deberán profundizar en los motivos por los cuales las EF acuden o no a instituciones de CR, con una perspectiva generacional, para completar las pruebas iniciales descubiertas en nuestros estudios empíricos. También es necesario realizar más investigaciones sobre los resultados obtenidos de que las EF de primera generación y bajo rendimiento que acceden a financiación de CR, ya que las instituciones de CR poseen unas capacidades notables de análisis y no cabría esperar que invirtieran en empresas con escaso rendimiento. Defendemos que el crecimiento de la baja productividad podría indicar que aquellas empresas de bajo rendimiento que acceden a CR se ven sometidas a dificultades

financieras, aunque deberían también investigarse otros motivos relativos a las características familiares.

Como principales limitaciones, debemos destacar que el alcance de este estudio se limita a un solo país. A pesar de que el enfoque reduce la heterogeneidad entre las empresas de la muestra y las repercusiones de los problemas medioambientales, carece del tamaño suficiente para poder proporcionar más datos sobre las cuestiones analizadas en el mismo.

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CHAPTER 1
FAMILY FIRMS, FAMILINESS AND RELUCTANCE TO ACCEPT EXTERNAL FINANCING

1.1. INTRODUCTION

After its creation sooner or later every firm faces the challenge of growth to ensure its future survival. In addition, family-controlled businesses (FCBs, henceforth) deal with personal family issues which affect individual and business goals and decision-making processes. Small and medium-sized firms (hereafter, SMEs) need investments to ensure and improve their growth path and market position. The successful transfer of the business from the entrepreneurial stage to larger management structures is a key challenge for small firms. This transition recurrently takes place in FCBs, with the passing of the business from founders to the subsequent generation (Peiser & Wooten, 1983). But only a few firms are able to go through this transition process successfully and to survive beyond the first life-cycle. Especially in young firms failure is often caused by poor economic conditions, lack of capital and resources, or incompetent management (Dyer, 1988).

Reasons for poor economic conditions may be inadequate cost structures and/or an insufficient volume of sales, which lead to a lack of profitability and insufficient internally generated cash flows. Below-average efficiency and a lack of professionalization often induce low margins and performance. Consequently, only limited capital and internally generated cash flow is available to finance necessary investments to ensure technical progress, efficiency and productivity. Founders may urge more and faster investments (McConaughy & Phillips, 1999). On the other hand, the founder-spirit does not always fit with growing structures and larger

management teams (Schein, 1983) and there is a lack of professionalization and efficiency.

Management of resources in FCBs is considered to be distinctive, specifically in their treatment of human capital, social capital, patient capital, survivability capital, and with a specific governance attitude. Thus, beyond the financing issue, appropriate resources may form part of a competitive advantage for FCBs (Sirmon & Hitt, 2003). But this unique bundle of resources in FCBs (i.e. the 'familiness'), created by the interaction of family and business, may also turn into a disadvantage (Habbershon & Williams, 1999). The wish to retain control among family members over generations might lead to an insufficient screening process of the top management team (TMT), favoring family members and neglecting business needs and necessary skills. Thus, often suboptimal employees and family successors are selected (Dunn, 1995). This fact, combined with a lack of experience in planning and carrying through the substitution of managers, especially the founder, may affect the succession and firm performance (Bennedsen, Nielsen, Meisner, Perez-Gonzalez, & Wolfenzon, 1997). Additionally, the pool of human capital appears limited as FCBs might have difficulties in attracting potential managers, who may avoid FCBs due to exclusive family succession, limited growth potential and lack of professionalization (Donnelly, 1964; Horton, 1986). Hence, FCBs' growth and financing may be limited due to these family specific (resource) issues.

Venture capital and private equity (Hereinafter, VC/PE) is a pool of capital provided by investors and managed by professionals to be invested in businesses with high potential and high risk (Sahlman, 1990). They seem

to be an optimal partner as they are used to reducing agency costs and information asymmetries as inside investors (Admati & Pfleiderer, 1994). As a financial intermediary (Chan, 1983), they also help in mitigating financial constraints in growing firms (Bertoni, Ferrer, & Martí, 2013). They are more willing to take risks and offer value-adding support that leads to improvements in efficiency (Chemmanur, Krishnan, & Nandy, 2011). Despite their importance, FCBs have been under-represented in VC/PE portfolios until now (Martí, Menéndez, & Rottke, 2013) and this work seeks to frame explanations and to build an understanding that will reduce obstacles to approaching external investors for the FCBs.

In this chapter we aim to explain the distinctive characteristics of family ownership and managerial control, the why and when they approach external VC/PE financing and how this can enhance their growth and survival prospects. The rest of the chapter is organized as follows. In the following section we outline a review of FCBs and their central challenges related to growth and succession. In the third section VC/PE activities are described as well as their tools to enhance firm value. The last section is dedicated to the motives for FCBs in approaching external financing. Additionally, reasons for VC/PE firms to invest in FCBs are highlighted to prepare the framework for the analysis made within this thesis.

1.2. OVERVIEW ON FAMILY OWNERSHIP AND MANAGERIAL CONTROL

1.2.1 HOW TO DEFINE FAMILY-CONTROLLED BUSINESSES (FCBS)

Research on FCBs has largely been descriptive rather than prescriptive in the past. Studies focused more on family relationships than on strategic decision making processes (Sapienza, Manigart, & Vermeir, 1996). Due to limited access to data most of the results were obtained for quoted firms with high ownership dispersion. As most FCBs are non-quoted, a huge number of questions about private firms are still neglected in the literature (Berrone, Cruz, & Gomez-Mejia, 2012).

The definition of FCBs has been subject to extensive discussion and some attempts have been made to improve the commonly used, less complex, definition based on ownership. In his work Handler (1989, p.258) stated that 'the definition of FCBs remains a "challenge" facing family business researchers'. The sole aim of the definition is to separate FCBs from their non-family counterparts.

Most studies follow their specific research question with corresponding individual definitions rather than using a common definition (Astrachan, Klein, & Smyrnios, 2002). For the latter, particularly, the ownership focus appears less adequate since it considers the FCB as a monolithic organization and does not allow for the separation of distinctive characters such as culture, strength and differences of family influence.

Shanker and Astrachan (1996) classified definitions by degrees of family influence. But in this early stage of family research no common

definition was used by researchers and the classification of FCBs was often made on a case-to-case basis (Astrachan et al., 2002). Since there is a general desire for a functionally useful definition,', the definition has to be made in such a way that it can be quantified and operationalized. Most of the definitions used in studies of this research stage reveal a high complexity. This not only prevents quantification but has also been seen as a reason to raise confusion, threatening the credibility of research in FCBs (Habbershon & Williams, 1999). The definitions used, which show slight differences across studies, made it difficult to compare results from different studies. Furthermore, the integration of the theory remains complex, and methodological concerns prevent an increase in theoretical progress.

Based on these critiques, Astrachan et al. (2002) developed the frequently cited F-PEC-model, respecting different dimensions of family influence to frame a basis to standardize the different definitions. They separate a power (P)-dimension, including ownership, governance and management subscale. The development of the FCB with a generational perspective is measured by the second Experience (E)-dimension, also differentiating experience in succession. The third Culture (C)-dimension identifies a family commitment subscale and the degree of the overlap of family and business values. The work of Jaskiewicz (2006) used the model in a performance study of English, Spanish and German family businesses, in which only quoted firms were considered. Although recent studies continue with the validation of the model (e.g. Holt, Rutherford, & Kuratko, 2010), substantial criticism remains, especially about the complexity of the

model and the lack of data available. In addition, few studies using this model have been published.

Quantitative studies based on larger samples, particularly those aiming to highlight the context of financing and growth decision making, tend to use simpler definitions. Gomez-Mejia, Haynes, Núñez-Nickel, Jacobson, and Moyano-Fuentes (2007) separated only three family generations for their paper's sample of private Spanish firms and highlighted the first family generation as the one that has the founder (family member) with a dominant position in ownership and management, the second generation as that with descendant generations as managing owners. Third (and later) FCB generations are defined as those having descendant family generations as controlling owner and external management.

Additionally, the definition of FCBs varies between private and publicly quoted FCBs. For the latter it is commonly proposed in literature that at least 5% of the shares are in the hands of the family (Miller, Le Breton-Miller, Lester, & Canella Jr., 2007). Conversely, private FCBs are assumed to be such when more than 50% of the shares are owned by a family (Cruz, Gomez-Mejia, & Becerra, 2010) and this definition is taken as the basis in the studies in this work. The strength of endowment, discretionary power and personal attachment to the firm is higher in private firms than in publicly listed firms (Berrone et al., 2012). Thus 'familiness' in private firms is higher (i.e. they act more family-like) and investigation of their behavior is more challenging (Berrone et al., 2012; Miller, Breton-Miller, & Lester, 2013).

1.2.2 HOW TO MEASURE FAMILINESS – THE SOCIOEMOTIONAL WEALTH MODEL

Current discussion about the description of FCBs' distinctive character, the 'familiness', beyond size, stage and age, influencing their business decisions, is framed by the concept of socioemotional wealth (SEW, henceforth), which was introduced by Gomez-Mejia et al. (2007). They investigate a large sample of Spanish olive oil mills and indicate the SEW as the central reference point for family principals' business decisions. This concept helps in explaining differences across family generations and family endowment. Among other issues, it predicts high reluctance to accept external financing, which is assumed to decrease in future generations. This concept includes characteristics and behavioral issues of FCBs to further explain relevance of non-economic criteria to frame their business behavior beyond financial goals. It seeks to explain how the firm fulfils the family's personal needs beyond economic aspects such as identity, influence, and perpetuation of the family dynasty (Gomez-Mejia et al., 2007). Research into FCBs has focused on different (non-economic) aspects of their attitudes. A strong emotional overtone, the role of family values in the organization and altruism to cater for family welfare are the most frequently mentioned criteria in this context (Gomez-Mejia, Cruz, Berrone, de Castro, 2011). The relation of these non-economic attitudes to financial goals in FCBs, particularly aspects influencing family preferences, is neglected in previous research. The work of Gomez-Mejia et al. (2007) created the SEW concept to label and to explain this relation with a large

number of observations. Their investigation benefits from the simple, clear business structure of the olive oil mills and one which facilitated the progress of the SEW model. Based on the results of Gomez-Mejia et al. (2007), illustrated in figure 1. Gomez-Mejia, Cruz et al. (2011) develop familiness as 'the bind that ties', which is based on five dimensions influencing the financial outcome of the FCB.

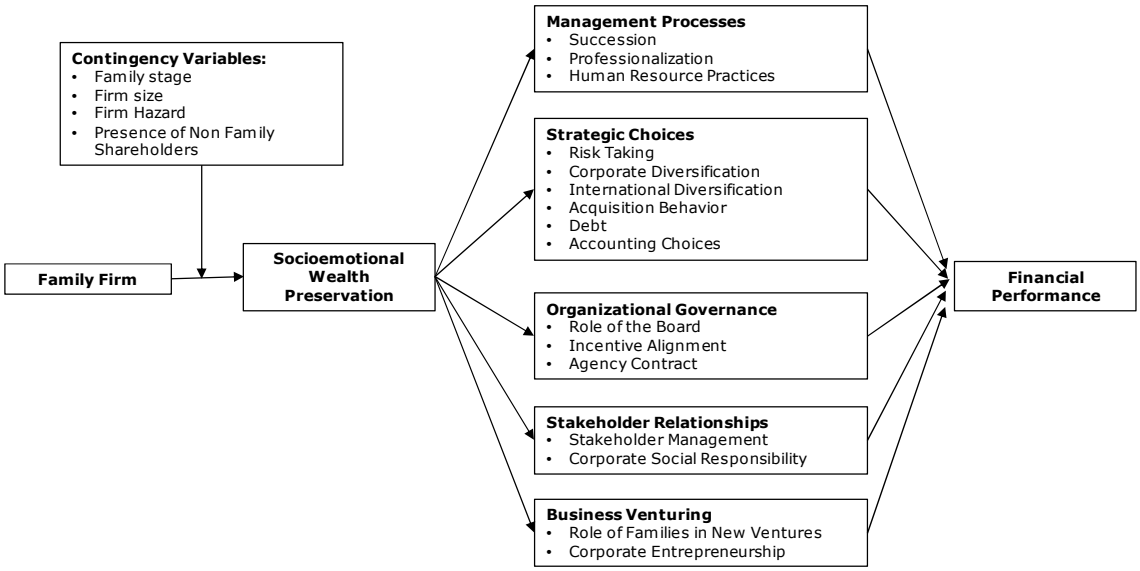

FIGURE 1: FCBS RESEARCH FROM A SEW-PERSPECTIVE (GOMEZ-MEJIA, CRUZ ET AL., 2011, P. 657)

The authors differentiate the dimensions of management resources, strategic choices, organizational governance, stakeholder relationships and business ventures (Gomez-Mejia, Cruz et al., 2011) to subsume the influences on the financial performance of the FCB. The SEW concept lays out the landscape, frame and boundaries for future research, although few studies are developed and research regarding SEW dimensions remains in its infancy. Unlike other models for defining the family business mentioned above, the SEW model uses a very simple definition of FCBs and has undergone development based on the results of Gomez-Mejia et al. (2007).

Although the model is new there is some evidence of the relevance of these SEW dimensions but with mixed results.

Within the management resources dimension the special treatment of human capital often increases employees´ attachment to the firm. Due to a family's intention to solve succession with family members, this often is accompanied by a negative impact on attracting and screening of potential managers (Sirmon & Hitt, 2003). This also may have a negative impact on the degree of professionalization of the FCB due to a collision between familiness and professionalization (Howorth, Wright, & Westhead, 2007).

Regarding the strategic choices dimension, Gomez-Mejia, Cruz et al. (2011) consider the risk-taking corporate diversification and acquisition behavior, debt financing and accounting choices as relevant for decision-making in FCBs. Especially controversial is risk-taking as FCBs may act in a risk-averse way (venture risks) and a risk-willing one (business risk) at the same time when this may serve their preservation of SEW (Gomez-Mejia et al., 2007).

The dimension of organizational governance integrates the role of the board, incentives to align interests and agency contracts. The stakeholder relationship dimension includes stakeholder management and corporate responsibility (Gomez-Mejia, Cruz et al., 2011). An implicit assumption within the SEW model is that family principals may prefer business decisions that benefit their SEW even when they might not be financially rewarding (Berrone et al., 2012). An example of this is a different treatment of environment and stakeholders to preserve their SEW. Berrone, Cruz, Gomez-Mejia, and Larraza-Kintana (2010) analyze firm's environmental

behavior and indicate that FCBs pollute less than their non-family counterparts. Despite their little direct performance relation such as eased conditions from suppliers or lower pollution costs, FCBs often act like this. Some authors suggest that the special and sustainable treatment of their environment might give FCBs the potential to build a competitive advantage (Hart, 1995; Russo & Fouts, 1997; Sharma & Vredenburg, 1998, Bansal, 2005) and found a positive impact on firms' results in the long run (Hart & Ahuja, 1996; Klassen & McLaughlin, 1996; Russo & Fouts, 1997; King & Lenox, 2002). Also relations with stakeholders are shown to be different for family owners as they care more about the quality of these relationships, fulfilling their mainly non-pecuniary demands with proactive stakeholder engagement (Cennamo, Berrone, Cruz, & Gomez-Mejia, 2012). This might positively influence stakeholders' satisfaction and increases organizational effectiveness with positive influence on performance (Zellweger & Nason, 2008).

The business venture dimension focuses on the role of families in new ventures and corporate entrepreneurship (Gomez-Mejia, Cruz et al., 2011) and there is some evidence but with mixed findings. Cruz and Nordqvist (2012) indicate that the entrepreneurial orientation (henceforth, EO) of FCBs may change over generations. They assume that the EO tends to be lowest in second generation FCBs due to the 'founder's shadow'. They observed that new external shareholders, particularly institutional investors, exert a positive impact on the EO, while they found mixed results for the influence of (new) external management within the TMT. Zellweger and

Sieger (2012) post some doubts about the role of EO for long-lived FCBs and suggest specific dimensions for the measurement of EO.

The relation between SEW and performance remains unclear. Miller et al. (2013) found mixed results in analyzing strategic conformity and SEW. They find a positive impact of strategic conformity on the return on assets, but no positive correlation with market valuation. They argue that this may highlight uncertainty about SEW relevance (i.e. whether SEW does have the potential to build a competitive advantage and enhance value or goes beyond financial considerations). Especially for small firms, Cruz et al. (2010) indicate that family endowment may create a comparative advantage of family employment with positive influence on performance. Miller and Le Breton-Miller (2005) highlight the meaning of stronger relationships within firms' community and with external stakeholders for the survival and viability of FCBs over generations.

In contrast, a dark side of familiness also exists and SEW can be a burden rather than a competitive advantage. Due to the strong family influence on a firm´s management, succession conflicts and dysfunctional relationships may occur (Berrone et al., 2012). Stakeholder orientation may be enlarged and negatively developed SEW dimensions may counter possible benefits (Kellermanns, Eddleston, & Zellweger, 2012). In the same vein, family employment sometimes indicates negative aspects of SEW (Cruz et al., 2010). With regard to performance, family principals may tend to refuse risky business decisions (e.g. innovative investments), which are important for future growth and performance, to avoid losing control (Gomez-Mejia et al., 2007). Thus, SEW may influence family owners to act

more conservatively and short-sightedly (Zahra, 2005). Furthermore, strong family control may give rise to activities that strengthen family power inside and outside the firm, which could lead to agency conflicts with external stakeholders (Morck & Yeung, 2003).

As a dark side of SEW, the strong separation of inside and outside the family by family members is often emphasized. In this way, SEW can be interpreted as self-serving behavior, including acceptance of fraud to maintain control and secure results (Kellermanns et al., 2012). In times of crisis and/or low performance this may convert a positive stakeholder treatment, supporting family's SEW, into primarily self-serving behavior without focusing on the needs of external stakeholders (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 2002).

In analyzing the interaction of FCBs with financial intermediaries the strategic dimension seems the most relevant factor with regard to the decision to approach external financing. On the one hand, this reduces family control and enlarges transparency for external banks or investors, thus decreasing SEW. Within a transaction, this loss of SEW, socioemotional aspects within the firm's organization and transgenerational sustainability intentions may drive family owners to demand compensation for this. Thus, FCB owners may raise acceptable sales prices resulting in a higher (realized) firm value (Zellweger Kellermanns, Chrisman, & Chua, 2012).

On the other hand, due to the large quantity of evidence already published on the positive impact VC/PE firms have on their investee firms, the challenging question remains: what might be the motives for FCBs to

open their firms to external investors? In other words, what could be the benefits when family owners approach external financing?

1.2.3 DISTINCTIVE NATURE OF FAMILY FIRMS

1.2.3.1 FAMILY FIRMS' LIFE CYCLES

From the life-cycle perspective, every (small) firm sooner or later has to face the challenges of growth and expansion. FCBs face an additional constraint represented by difficulties in separating family relationships from business decisions (Peiser & Wooten, 1983; Handler & Kram, 1988; Upton, Teal, & Felan, 2001; Sharma, Chrisman, & Chua, 2003; Sonfield & Lussier, 2004; Cadieux, 2007).

Firms' development through their life-cycles may be described in three stages. A small firm's history starts with the survival or founding stage, with a simple firm configuration and dominating position of the founder/s (Mintzberg, 1981). The business then reaches the success stage where the small firm breaks out of resources poverty and achieves a stable plateau of success. The take-off stage marks the ultimate phase, where a firm evolves to become a large, more complex organization where founders' influence tends to decrease (Peiser & Wooten, 1983).

Times of crisis for FCBs often occur at the success stage, where the (family) entrepreneur has to prepare for growth or the owners decide to disengage themselves. Therefore, the firm may decline in that stage (Peiser & Wooten, 1983). To avoid the latter FCBs are urged to force their business planning as well as strategic and succession planning to survive and to be

able to reach the succession stage (Upton et al., 2001). The founder has to improve and develop firm structures (e.g. strategic apex, operating core, middle line, technostructure and support staff), forces and resources (Mintzberg, 1981). To reach take-off stage it is also necessary to include employees in current and future performance goals (Upton et al., 2001).

1.2.3.2 GROWTH AND INVESTMENT BEHAVIOR

Growth behavior of FCBs can be explained from a resource-based view or an agency view perspective (Molly, Laveren, & Jorissen, 2012). From the resource-based view perspective, FCBs generate a competitive advantage with expected higher performance and growth figures compared with non-FCBs due to the management of specific family resources (Sirmon & Hitt, 2003). From an agency perspective FCBs are described as an efficient type of organization with lower agency costs due to the coincidence of ownership and control (Daily & Dollinger, 1992). In contrast, other authors highlight the fact that agency costs can become significant for FCBs with negative influence on performance and growth (Schulze, Lubatkin, Dino, & Buchholtz, 2001).

FCBs face many obstacles in their growth objectives and strategies as their first interest is to avoid a decline and loss of the family business. Furthermore, they want to promote firms' continuity and family unity. Finally, they also like to maintain headcount and create wealth (Peiser & Wooten, 1983).

From a generational perspective firms in subsequent generations' hands are often found to grow more slowly than first generation ones due to the tendency to maintain the business rather than losing it due to risky investment decisions. This is especially the case in the second generation and can be explained by the negative impact of 'founders' shadow' and a reduced entrepreneurial orientation (Cruz & Nordqvist, 2012).

There is a common understanding that family investment policies follow a risk aversion attitude to preserve long-term survival of the company. FCBs are expected to show long-term orientation and commitment to the firm. Thus, they are expected to devote substantial financial resources to long-term investment activities (Anderson, Duru, & Reeb, 2012). According to the SEW concept, however, Gomez-Mejia et al. (2007) outline that family principals avoid high-variance investments with uncertain outcomes to preserve SEW. Hence, they tend to invest less in long-term investments (Hsiang-Lan Chen & Wen-Tsung Hsu, 2009; Muñoz-Bullón & Sanchez-Bueno, 2011) as risk increases with longer-term investment perspectives (Anderson et al., 2012). And, if this is so, they prefer capital expenditures such as physical assets to riskier R&D projects (e.g. Gomez-Mejia, Cruz et al., 2011), as the latter are seen as too risky with the potential to jeopardize results and family control (Anderson & Reeb, 2003).

The merger with or acquisition of another firm (M&A) tends to be a long-term investment, often started in the stock market through a takeover bid. But in the same vein, as Caprio, Croci, and Del Giudice (2011) outline, those M&A activities are seen as risky projects by family owners. Thus, the

probability of takeover bids and acquisitions are less likely with family ownership, especially when the size of the family stake is not sufficient to retain control after the transaction.

FCBs pursue long-term goals from a non-financial perspective if there is sufficient internal capital and no need for external capital. Cennamo et al. (2012) highlight that FCBs may show enlarged proactive stakeholder commitment to enhancing their SEW in a long-term perspective.

Some authors argue that FCBs can be assumed to follow special investment calculations as they often finance investments with less debt and more internal 'patient' capital (see below), resulting in a lower cost of capital (Adams, Manners, Astrachan, & Mazzola, 2004). Expected and required return rates are lower and project schedules can be enlarged (Zellweger, 2007). But this calculation depends on the availability of sufficient internal capital to limit the risk of financial losses.

1.2.3.3 FINANCING

FCBs follow a specific hierarchy to finance investment opportunities, preferring internal to external funding, and debt to equity, if external financing is necessary. This is in accordance with the pecking order theory (Myers & Majluf, 1984). Long-term orientation and willingness to build and transfer the firm to later generations creates a special incentive for effectively managing financial capital (Gallo & Vilaseca, 1996; McConaughy & Phillips, 1999). Due to lower debt exposure and preference for internal

financing, their cost of capital tends to be lower (Myers & Majluf, 1984; McConaughy, 1999; Adams et al., 2004).

In general, their business activities are claimed to be more conservative and consequently FCBs tend to be less indebted (Gallo, 1995; Gallo & Vilaseca, 1996). In line with that, family financing philosophy of investments requires 'patient' capital (Sirmon & Hitt, 2003, p. 343), which is typically provided by family members or others with the same time horizon and endowment as the family. In contrast to external capital, like bank debt, it is commonly granted for a long or unassigned period, without risk of liquidation, for long periods (Ward & Aronoff, 1991; Dobrzynski, 1993). It could result from generated retained earnings or money lent by the owners. Thus, if (sufficient) patient capital is available, this can be seen as a huge valuable asset for FCBs (Sirmon & Hitt, 2003) to avoid dependence on external financing. In this way FCBs can decide to follow a distinctive family investment strategies. As this philosophy results in low debt, their credibility increases as potential targets for external bank financing for some family specific capital needs (Cennamo et al., 2012). Some authors outline that FCBs act in distinctive, sometimes less capital intensive, sectors (Palacín-Sánchez, Ramírez-Herrera, & Di Pietro, 2012) and more cyclical industries (Zellweger, 2007). In addition, FCBs tend to act in specific sectors with an increasing degree of specialization, machinery and service sector, which are more labor intensive (Colombo & Grilli, 2010).

1.2.3.4 SUCCESSION

The business forms the central part of the life of a founder and his family. In particular, founders often create a very distinctive spirit within their firm and their withdrawal, either planned or not (e.g. death), thus creates a huge challenge for the survival of the firm. Hence, the most critical event for planning growth is the organization of the succession (Peiser & Wooten, 1983). Professionalization with external management rather than a family successor is suggested to enable growth and efficient planning of the succession process (Hellmann & Puri, 2002). The organization of succession demands family resources in two ways. Firstly, succession planning regarding ownership may be an emotional, time- and capital-consuming process (Bennedsen et al., 2007; Koropp, Grichnik, & Gygax, 2012). Secondly, with respect to the management, the choice between a family CEO/director and a non-family external executive may deeply influence the future performance of the firm (Bennedsen et al., 2007; Cai, Luo, & Wan, 2012). For the initialization of the succession planning, feasibility analysis is often dominating and the existence of a willing and trusted successor pushes the incumbents to leave the business instead of pursuing the desire to keep it within the family (Sharma et al., 2003). A Management-Buy-In / Management-Buy-Out (MBO/MBI), i.e. a sale of stakes to existing or new managers, can be an option for a successful succession to sustain familiness and independent ownership (Howorth et al., 2007). In this context, financial investors can act as

specialized intermediaries helping to plan, finance and organize this process (Scholes, Wright, Westhead, & Bruining, 2010).

Financing remains a critical component for the outcome of succession planning (Koropp et al., 2012). Often debt can be used to ensure financial needs in the succession planning, but limitations in the owner-manager's financial knowledge, prior succession experience and personal attitude regarding succession planning determine succession-financing decisions.

1.3 OVERVIEW ON VENTURE CAPITAL AND PRIVATE EQUITY

VC/PE firms are specialized investors offering capital and assisting their investee firms with a set of value-adding activities (Croce, Martí, & Murtinu, 2013). Since this work aims to explain the interaction and impact of VC/PE investors on FCBs´ development it is necessary to highlight their approach and interaction with investee firms, the process of selection of investee firms and how they can be expected to add value to them. Additionally, we ask how they assess distinctive firm characteristics as exhibited by FCBs for their investment decision, and what might influence their ability to develop firm characteristics to create additional value.

1.3.1 FUNDAMENTALS OF VENTURE CAPITAL AND PRIVATE EQUITY

Venture Capital (VC) is a pool of capital provided by investors and managed by professionals to be invested in businesses with high potential and high risk (Sahlman, 1990). It originated in the United States in the mid-1940s and started nearly four decades later in Europe with a wider

investment scope, including traditional young fast-growing companies as well as investments in more mature and less risky firms. Private Equity (PE) is a concept that describes the latter (Bertoni et al., 2013).

Different groups of investments, depending on the age and the stage of development of the VC/PE-financed firm, have been established in the literature to classify VC/PE-financing: early stage, expansion stage and later stages. Further subgroups to classify life-cycle stages are assumed by some authors like Sahlman (1990) or, more recently, Puri and Zarutskie (2012). For the purpose of this study, however, the classification of the dataset used in the following chapters will include three categories only: early-stage, expansion stage and later stages. Investments in early-stage firms include their development at the very beginning, i.e. founding steps, initial launch of products and marketing campaigns. Typical financing structures consist of separate financing rounds with risk-adjusted amounts, depending on the success in reaching milestones. Expansion investments mainly take place to enlarge and scale firms' developed business model. Later stages are characterized by mature firm and management structures. Greater turnover and assets require larger amounts to be invested and different types of financial instruments are deployed (EVCA, 2013).

Although research about PE has increased in the last decade, VC literature prevails, most notably motivated by the longer history in the United States. Only a few studies include different life-cycles or VC and PE investments in their research focus and concentrate on one of the stages. Only a few VC/PE firms concentrate investments in just one stage (Hellmann, 2000). Some VC/PE firms diversify risks by including mixed

early stage and expansion stage firms, or firms at the expansion and later stages with a more predictable return pattern.

1.3.2 THE IDIOSYNCRASY OF THE VC/PE INVESTMENT PROCESS

VC/PE offers equity financing without requesting the same collateral as banks do with debt financing. Thus they act as a financial intermediary able to face capital market imperfections, providing capital to firms who otherwise would not be able to access external financing (Lerner, 1995; Carpenter & Petersen, 2002). To cope with information asymmetry problems, VC/PE investors screen potential investments carefully, sign contracts with existing shareholders/managers and monitor investee firms closely (Sahlman, 1990).

The screening process forms the most important part of the selection process to identify the most promising investee firms. VC/PE invests a significant amount of time and strength in the pre-investment process to obtain information about the investment target (Admati & Pfleiderer, 1994; Reid, 1996; Kaplan & Strömberg, 2003; Thillai Rajan, 2010). On average, Fried and Hisrich (1994) estimate a three-week full-time period for the evaluation process and deal closing and nearly 100 days to complete the process of investment. The collection of information is the first part of the screening process to reduce information asymmetries, which result in adverse selection and moral hazard problems for the investor (Chan, 1983).

Especially in the early stages, due to the lack of or insufficient (historic) data, investors base their investment decision on the

entrepreneur's personality, the quality and uniqueness of the business concept and idea or the structure and attractiveness of the market (Tykvová, 2007). The problems stemming from information asymmetries are handled by VC/PE investors with suitable structuring of the deal and efficient incentive and compensation schemes (Sahlman, 1990). Based on the knowledge gained in the screening process, they structure adequate control rights (Lerner, 1995) and define funding milestones (Kaplan & Strömberg, 2003).

VC/PE institutions are active investors that monitor and add value to their portfolio firms. Due to the information and detailed knowledge base about the firms, gained from the screening process, VC/PE investors are known as inside investors (Lerner, 1995). Thus, they are able to finance firms which normally would not receive external financing, so funding of VC/PEs plays a dominant role for those firms (Balboa, Martí, & Zieling, 2011). But investments in these firms may imply an extensive risk and uncertainty of outcome for capital spenders beyond information asymmetries. VC/PE can handle this uncertainty with a specific design of contracts with entrepreneurs and important employees (contracting) and continuous control of the investee firms (monitoring). The dominant paradigm for the contracting is the adequate design to manage principal-agent-relations, where VC/PE firm is the principal and the entrepreneur the agent. The structure of the contracts between the entrepreneurs and the VC/PE firm serves to establish the right incentives for the entrepreneur as agent to avoid moral hazard problems. Hence, contracting aims to influence entrepreneurs' behavior to reduce agency costs (Tykvová, 2007). A second

important function contracts have is to set the incentives for the VC/PE as the agent, since their contribution is fundamental for the entrepreneur. Often financial contracts of VC/PEs include different rights such as voting and cash flow rights. They may also include the right of a VC/PE to obtain full control of the board and voting rights in the case of poor performance (Kaplan & Strömberg, 2003).

A periodical reporting is established to allow monitoring, also accompanied by audits and meetings to evaluate results. VC/PE managers are appointed as directors and often serve as consultants or at least trainers of the TMT. The frequency varies depending on firm characteristics. In the case of firms in the early-stages and high-tech-industries, where information asymmetries are highest, VC/PE develops more intensive monitoring activities. It may sometimes lead to abandoning a project. Chemmanur et al. (2011) find that VC/PE firms of high repute show stronger monitoring capacities.

Further value-adding services provided by VC/PE firms are responsible for the positive impact on their investee firms**.** Beyond funding, contracting and monitoring, VC/PE is known for a variety of value-adding activities. They provide services that help investee firms to enhance their probability of success (Chemmanur et al., 2011). They help to hire competent management (Gorman & Sahlman, 1989) and provide better incentives to management and employees (Hellman & Puri, 2002). In addition, they provide access to their network of suppliers and potential customers, as well as other portfolio firms (Chemmanur et al., 2011). Their management support also contributes assistance in strategic and

operational planning (Gorman & Sahlman, 1989). Some show stronger relations with the managers of their investee firms (Sapienza et al., 1996). In that context Bottazzi, Da Rin, & Hellmann (2008) indicate that the experience of the VC managers may influence their intensity of active recruiting, help in fundraising and interaction of VC/PE with their investee firms. The intensity of VC/PE interaction may vary with the type of VC/PE investor, as independent VC/PE firms are found to be more active than 'captive' (bank-, corporate-, or government-owned) firms. Firms enjoying higher investor activity are usually more successful (Bottazzi et al., 2008) and the experience of the VC managers may favor success in going public (Sørensen, 2007). There is some evidence that access to private financing like VC/PE furthermore helps firms to innovate and, thus, to increase productivity when they face competition in the product market (Spiegel & Tookes, 2013).

The role VC/PE plays may differ for investments made in FCBs throughout their lifecycles, generations and firm characteristics (Scholes et al., 2010). Major potential in SMEs, often in the first generation and when they are financially constrained, arises from the mitigation of financial constraints and the improvement in efficiency. VC/PE firms select efficiency strategies that mainly take the form of activities to increase professionalization (Hellman & Puri, 2002) and to reduce costs (Bertoni et al., 2013). In contrast, growth/expansion strategies are chosen by VC/PE firms in larger and more mature firms. In some cases there is a new generation involved, whereas in others there is a dispersed ownership structure. The main potential in those firms can be derived from a review of

growth activities without the limitation of the previous family agenda (Scholes et al., 2010).

1.3.3 DISTINCTIVE IMPACT OF VC/PE

Therefore the effect of VC/PE involvement can be observed in different ways. Among them, we could highlight:

- a reduction in financial constraints in SMEs;
- an increase in productivity;
- faster growth rates in SMEs.

1.3.3.1 EASING FINANCIAL CONSTRAINTS IN SMES

SMEs have limited tangible fixed assets to be pledged as collateral to access external funding (Ang, 1991; Chittenden; Hall & Hutchinson, 1996). Thus, growth opportunities are conditioned by the internally generated cash flows (Colombo & Grilli, 2010; Serrasqueiro & Nunes, 2012).

As inside investors, VC firms are used to reducing agency costs and information asymmetries (Admati & Pfleiderer, 1994). They are able to mitigate financial bottlenecks as financing partners (Chan, 1983) and help investee firms in taking advantage of their growth opportunities (Bertoni et al., 2013). As their limited tangible fixed assets cannot be used as collateral, they provide equity funding and enhance the credibility of investee firms (Ang, 1991; Chittenden et al., 1996). Therefore, VC/PE investors are ideal partners for financially constrained FCBs that lack

managerial and financial resources to take advantage of their growth opportunities.

1.3.3.2 INCREASE PRODUCTIVITY

In the 1990s in the United States, critics increasingly viewed operating profit as a measure of performance that could be subject to manipulation (Barth, Gulbrandsen, & Schønea, 2005). An alternative measure that received more attention is productivity (Palia & Lichtenberg, 1999). Originally, productivity was considered as an economic variable, omitting managerial aspects in the estimation of production functions. In corporate finance literature principal-agent conflicts were predominant at that time. The first attempt to address the problem of neglecting the management aspects was undertaken by Mundlak (1961). He proposed a firm-specific, fixed-effects model, where each firm gets a separate intercept, but treating managerial quality and incentives as an unobservable constant for each firm. Palia and Lichtenberg (1999) first used managerial ownership of the firm's shares as a determinant of firm output (conditional on capital and labor) in the estimation of a firm's production function. This approach to the use of managerial compensation for the evaluation of firm performance has had a long history in the corporate finance literature. The work of Palia and Lichtenberg (1999) was the first to link the latter with productivity research and describes a concept of firm productivity.

Microeconomic theory postulates a firm using a bundle of resources or inputs, commonly labor and capital. Assuming for simplicity reasons only

one product is to be produced, the general definition of productivity is defined as the ratio of (real) output to (real) input.

As firms use more than one production factor, the partial productivity measure of this factor can be measured by using the input of this factor as the denominator. Labor productivity is adequately calculated as output per unit of labor input. In the same way capital productivity is calculated as output per unit of capital input. The measurement can be made for labor in total hours worked and for capital in real net stock of plant and equipment. Partial productivity measures serve to evaluate and compare firms from a ceteris-paribus-perspective, e.g. comparing labor productivity of different firms or periods within the same firm. But as it assumes the influence of the other non-labor factors to output will remain constant, it does not seem to be an adequate measure for the efficiency of a firm (Palia & Lichtenberg, 1999).

Baily and Schultze (1990) highlighted that a decline in (labor-augmenting) productivity growth results in a decline in the rate of profit growth, which is equal to the marginal product of capital with a simple neo-classical one-sector model for quoted firms. They observe that this takes place in the short run and (especially) in a steady-state long-run equilibrium. This leads Palia and Lichtenberg (1999) to argue that differences between firms in total factor productivity (henceforth, TFP) are likely to be positively correlated with differences in stock values and propose using productivity as a more fundamental proxy than market value for firm performance. They found managerial ownership changes to be positively correlated to efficiency and firm performance.

A little later Barth et al. (2005) developed this model for FCBs and found evidence of performance differences in FCBs with family management and those with external management. They found lower performance for the former and highlighted the importance of professional management to the efficiency of firms. Gains in productivity and efficiency could be caused by a more than proportional increase in outputs or a better and more efficient use of inputs.

VC/PE firms are known as active investors used to controlling and replacing inefficient management, thus, increasing the efficiency of human capital. They seek to be leaders in technical progress and inside investors in the sectors in which they invest. With that knowledge they are able to urge necessary changes of production processes and renewals of machinery and stock (Tykvová, 2007). Monitoring and other value-adding services are provided by VC/PE in addition to funding to help increased efficiency in the use of production factors in investee firms (Chemmanur et al., 2011). As the age of firms increases often EO tends to decrease from the level of founders' first steps. Since VC/PE managers with these value-adding capacities help to renew and increase the EO in (family) firms (Cruz & Nordqvist, 2012), an increase in productivity can be expected after the entry of the VC/PE firm (Croce, Marti, & Rottke, 2012).

Croce et al. (2013) resort to TFP to reflect the effect of value added provided by VC/PE investors. They argue that higher growth was to be expected in the former due to the additional funding received. Nevertheless, since TFP measures the increase in output due to an increase in inputs, by

measuring TFP growth the differences cannot be attributed to funding but, rather, to other value-adding services provided by VC/PE investors.

Therefore, the FCBs could also benefit from these value-adding services if they access VC/PE funding.

1.4. FCBS AND VC/PE - OBSTACLES AND OPPORTUNITIES

Research into VC/PE involvement in FCBs is still in its infancy (Martí et al., 2013) but due to their importance in most European countries, especially in times of crisis, FCBs have received increased attention as investee firms in the VC/PE industry. Studies and research on FCBs have undergone a fundamental development. Whereas this area was scarcely considered in the last century, research has developed different methods to describe familiness and its distinctive characters within the last decades (Wright & Kellermanns, 2011).

Despite this research progress, quantitative analysis of the relation between SEW and financial performance as well as interaction with external investors remains at the starting point (Berrone et al., 2012). Research indicates a reluctance of FCBs to approach external financing. On the one hand, the influence of FCBs' distinctive characteristics before and after the VC/PE transaction needs further investigation. On the other hand, the treatment and valuation of FCBs and their specific characters by VC/PE investors has been neglected in research. In that context, the most challenging aspect of the transaction, the pricing, needs a special consideration.

1.4.1. SEW PRESERVATION AND UTILITY MAXIMIZATION

The model of SEW assumes the protection of FCBs' SEW as the only reference point for family's business decisions. Family principals may respond to claims that protect and enhance their SEW even if they are not financially rewarding (Berrone et al., 2012). This behavior does not necessarily lead to economic losses, as decisions based on socioemotional aspects, particularly those taken with long-term goals in mind, may serve as the source for competitive advantage (e.g. less pollution of FCBs) (Berrone et al., 2010). Some authors observe that SEW-oriented business decisions have a positive impact on performance. King and Lenox (2002) found greater concern for the environment had a positive influence on financial performance. Cruz et al. (2010) find evidence of a performance advantage in small and micro firms due to an imprinting effect of family employment, but acknowledge the negative aspects of family employment, e.g. low incentives to find new ways of doing things. Miller et al. (2013) indicate that strategic conformity was related to greater return on assets, but without positive impact on the market valuation of FCBs. Evidence for the relation of business decisions influenced by SEW concerns and performance is mixed as the SEW perspective allows also for negative aspects of familiness, such as succession conflicts, dysfunctional relationships and managerial entrenchment (Berrone et al., 2012).

Recent research hence suggests that there might be more than just one reference point, beyond SEW, for family business decisions to be able to explain under which conditions economic objectives become preferable to

SEW-related goals. This research assumes FCBs maximize a utility function with two components, SEW and financial outcomes (Berrone et al., 2012).

The preservation of SEW has to be made responsible for negative perceptions of external financing and family principals' reluctance to approach external investors. The necessary transparency, fear of losing control, negative assumptions for the future of the firm (e.g. asset stripping may occur), and other SEW concerns may prevent the family from approaching an external financier or investor. Thus, an alternative reference point has to be assumed when FCBs approach external financing (Hennessy & Whited, 2007).

Assuming a utility function with two components - SEW and financial outcomes - a shift results from changes in the utility consideration for SEW concerns and/or a higher utility of the financial outcome component (Berrone et al. 2012).

Most current research assumes FCBs to be homogenous with regard to their SEW level and does not distinguish between different FCBs (Berrone et al., 2012). As family ownership is used as a proxy for the existence of SEW, differences are neglected in these studies (Gomez-Mejia, 2007; Berrone et al., 2010). Other authors do account for differences among FCBs, though without linking them to the new SEW model (Zahra, Hayton, & Salvato, 2004). But it seems obvious that strength of ownership, i.e. the shares and the percentage FCBs own, make a huge difference and two important aspects are introduced. These are, first, different SEW levels for private and quoted firms, and secondly, SEW differences among generations.

The difference between private and quoted firms results from different sizes of family shares. As access to data of private firms is very limited, most of the literature is developed based on publicly quoted firms assuming that at least 5% of the shares to be in the hands of the family (Miller et al., 2007). By contrast, private FCBs are assumed to be those where at least 50% of the stakes are owned by a family (Cruz et al., 2010). For the latter, the strength of endowment, discretionary power and personal attachment to the firm will be much higher, so SEW concerns will be more present than in publicly listed firms (Berrone et al., 2012). At the same time private firms are less visible and their interest in gaining attention, status and legitimacy is lower. The tradeoff between financial and socioemotional outcomes is also judged differently by these private firms. Thus, the level of reluctance and aversion to external and institutional interests in private firms can be assumed to be higher than in quoted firms (Miller et al., 2013).

Generations of FCBs mark distinct levels of SEW strength and it can be assumed that a family's relationship with their firm is strongest and attachment highest when the founding generation owns and manages the firm (Chua, Chrisman, & Sharma, 1999; Mishra & McConaughy, 1999). With transition to subsequent generations attachment tends to weaken, as ownership dispersion is likely to grow as the number of inheritors increases (Schulze et al., 2003). Analyzing selling decisions for Spanish olive oil mills Gomez-Mejia et al. (2007) suggests that besides economic issues, willingness to give up control and accept connected losses in SEW is greater when the firm is in subsequent generations' hands (the second family

generation's hands). This effect is even more pronounced if the firm is managed by external management (in the third or later family generations).

There is evidence that financial considerations become more salient to (investment) decisions when economic development weakens and results decline (Berrone et al., 2012). Gomez-Mejia, Makri & Kintana (2010) find that diversification activities increase with decreasing performance figures. Gomez-Mejia, Hoskisson et al. (2011) describe R&D investments being extended with lower results. But understanding of the relationship between SEW and financial outcomes is limited and needs further investigation (Berrone et al., 2012). SEW evolution as an endogenous variable can be positively related to firms' performance as founder-CEOs are considered to create value while descendants tend to destroy it (Villalonga & Amit, 2006). There is anecdotal evidence that SEW may enhance firm value when there is a high need for patient capital, or when tacit knowledge is important. But little is known about the relation between SEW and financial outcomes. The role that performance hazard and poor performance play in family principals' financing decisions remains unclear (Berrone et al., 2012). As this study aims to investigate the incentive and motive for FCBs to cooperate with external investors and funding forms an important part of the VC/PE services offered, the meaning of performance hazard needs further investigation.

With sufficient 'patient' (internal) capital family principals can follow their specific investment strategies with lower costs and return expectations. They can neglect external capital and follow longer time horizons, emphasizing non-economic goals (McConaughy, 1999). FCBs are

less enthusiastic about "trading" their SEW preservation for low business risk. On the contrary, higher performance hazard makes them more willing to diversify to reduce risk, as Gomez-Mejia et al. (2007) outline. Thus, low performance might be the type of event regarded as an "informational clue" (Berrone et al., 2012, p. 261) which motivates family principals to think of shifting their reference point to financial considerations. This is because low performance may result in a twofold threat. On the one hand, there is the need to overcome financial hardship as family patrimony is often not diversified. Often the option of diversification is only discussed in FCBs when business risks increase and is influenced by performance variability and performance hazard (Gomez Mejia et al., 2010). On the other hand, there is the possibility of SEW vanishing. The firm may be sold, taken over by another firm, go bankrupt or similar, and this may influence a family to shift their preferences from SEW to financial considerations (Berrone et al., 2012). As Gomez-Mejia et al. (2007) outline, family principles, especially those of the founders, sometimes may lead to irrational behavior in times of crisis and increased performance hazard, to preserve SEW. This might then result in a greater reluctance to accept external help or capital. With declining performance and higher probability of completely losing SEW (perceived as more likely with worse results) the relative utility of preserving SEW is lowered. Thus, in adverse economic conditions, family principals would tend to switch the prevalence family over economic goals due to the lower utility of SEW and the higher importance (and utility) of financial aspects. In the same vein, family owners can be assumed to be more willing to open their firm to external sources of funds. Reasons for

poor economic conditions, performance hazard and the failure of FCBs are often concentrated in a lack of capital, lack of resources and incompetent management (Dyer Jr., 1988). Therefore, these factors should be the framework for the utility of the corporation for a FCB with the value-adding capacities of VC/PE investors. It remains a challenging question: Is it possible to identify a situation in which economic objectives become preferable to SEW-related goals (Berrone et al., 2012)?

1.4.2. CAUSALITY OF VC/PE IMPACT IN FCBS

VC/PE investors may support FCBs to succeed in important challenges such as growth, financing and succession. They aim to increase the value of portfolio firms through screening, funding and adding value to their portfolio firms in addition to funding. For the success of the interaction of the two parties it seems necessary to investigate the role VC/PE firms can play. As mentioned above, in the context of FCBs a strong culture, reluctance to seek external financing and distinctive firm characteristics play a significant role. Value-adding capacities of VC/PE investors have to be reviewed in that light and specific determinants for the transaction have to be considered.

Little is known about the influence of FCB governance and external investors like VC/PE on the strength of SEW preservation tendencies. With a Family CEO and board member Berrone et al. (2010) assume SEW to be more salient but found no evidence for this hypothesis. Gomez-Mejia, Hoskisson et al. (2011) find a weak effect for the presence of other owners, such as institutional investors, with different strategic frameworks and

interests, so that the SEW emphasis diminishes. It seems obvious that the strength of family governance does depend on the strength of ownership, i.e. the size of the stake of the family. In line with the arguments for the definition chosen for private FCBs, the loss of a majority of the family always means officially losing FCB status. In contrast, if the family retains a majority stake it may allow them to keep familiness in the firm. Thus, minority or majority might be an interesting variable within VC/PE interaction as SEW influence and importance within the FCB may vary profoundly depending on the remaining number of family shares.

The positive impact that venture capital exerts may arise from selection, funding, monitoring and value-adding services provided by VC/PE. But when FCBs tend to be more willing to approach external investors (only) when economic conditions become more promising, investors' potential motives for investing in this case have to be questioned as they invest huge resources in the selection process of their investee firms. This may thus appear a contradiction to screening capacities of VC/PE firms as they are assumed to only select winners. This might have a dual explanation, firstly by the key firm characteristics VC/PE are seeking in the screening process, and secondly with their different strategic focus. Puri and Zarutski (2012) observed this over two decades in their longitudinal study of VC-financed firms in the United States. They found that past results and performance do not represent the major focus of the screening of prospective investee firms but, rather, the future growth potential. VC/PE is willing to invest in firms with ideas and no or low immediate returns. As they are able to improve profitability with efficiency strategies (Jensen,

1993; Wright, Hoskisson, Busenitz, & Dial, 2000; Scholes et al., 2010), it might be suggested in line with the results of Puri and Zarutski (2012) that ideas and potential to scale in FCBs might be preferred also to profitability. Growth potential of FCBs would be preferred to current results and performance. Family-specific criteria are screened as well as human resources (Dawson, 2011).

Additionally, from an investor´s perspective the role may change and potential for value creation differ. Due to their specific capacities lesser performing and/or constrained firms may appear attractive. Bertoni et al. (2013) indicate that the role VC plays may change depending on firm size. Small and medium sized firms are more likely to be in a worse economic state than larger firms (e.g. due to information asymmetries). VC/PE then helps to overcome a lack of capital. Larger FCBs mostly act without depending on internal cash-flows and they tend to approach private equity firstly to take advantage of growth opportunities (Scholes et al., 2010; Bertoni et al., 2013). Particularly in FCBs a lack of entrepreneurial thinking combined with limitations of capital might reduce the possibility to execute growth options such as entry in new markets, rollout of brands and M&A-activities to ensure future growth.

Similar to industry transactions of distressed firms, called liquidity mergers (i.e. those without operational synergies), firms may also acquire other firms for their industry-specific assets, even though the latter may be financially distressed (Almeida, Campello & Hackbarth, 2011). VC/PE investors prefer FCBs with potential to reduce agency costs and already

professionalized, particularly due to non-family succession (Dawson, 2011). This is mostly the case in the second or later generations.

Pricing forms a central part at the very beginning of the transaction. Due to family agendas and specific difficulties from highly concentrated ownership it may appear reasonable for VC/PE investors to pay a lower price for FCBs in acquisitions (Granata & Chirico, 2010, Scholes et al., 2010) or to request higher returns, e.g. dividends or interest rates paid (Dawson, 2011). For family owners, in the financing process with a VC/PE, the price forms part of the investment decision (i.e. the price is compensating for the loss of SEW), which is calculated as part of the capital costs of VC/PE involvement. The SEW concept may further urge an owner to demand a higher price for selling the business to non-family owners to compensate for the perceived loss of SEW. With lower performance, fewer financing opportunities and increasing constraints price expectations may decline the more the constraints and threat to SEW increase. Zellweger and Dehlen (2012) estimate the value of SEW by measuring the difference between objective market value and the owners' subjective assessment. In addition, the wish of family owners to know the company is in "good hands" seems to be central.

But research in this area, partially the valuation of private firms, remains challenging as existing data are limited (for a survey see e.g. Sharma & Carney, 2012). Additionally, measuring of the influence of the non-economic endowment of the family still poses major challenges (Berrone et al., 2012). Thus, within the transaction, price discussion may be taken as one of the most important but conflicting issues.

Our work will not focus on pricing but, rather, on some objective measures of financial hardship in FCBs in different generations to check whether the natural reluctance to accept external investors such as VC/PE institutions is reduced in hard times.

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CHAPTER 2
SOCIOEMOTIONAL WEALTH, GENERATIONS AND VC/PE INVOLVEMENT IN FAMILY-CONTROLLED BUSINESSES *

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2.1. INTRODUCTION

Venture capital/Private Equity (hereinafter, VC/PE) institutions are considered as specialized investors able to reduce information asymmetries (Chan, 1983) and to renew the entrepreneurial orientation of the investee firm (Cruz & Nordqvist, 2012). They provide value-adding services to their investee firms in addition to funding (Croce, Martí & Murtinu, 2013). The impact of VC/PE involvement on the productivity growth of investee firms has already been addressed in the literature (e.g. Alemany & Marti, 2005; Chemmanur, Krishnan & Nandy, 2011; Croce et al., 2013, among others). With a few exceptions (Howorth, Wright & Westhead, 2007; Martí, Menéndez-Requejo & Rottke, 2013; Wright, Amess, Weir & Girma, 2009), however, the study of VC/PE investments in family firms has been neglected. Even though family-controlled businesses (hereinafter, FCBs) are the prevailing form of enterprise in continental Europe (Faccio & Lang, 2002), they are underrepresented in the portfolios of VC/PE firms (Martí et al., 2013). This could be one of the reasons explaining the limited attention FCBs have received in the VC/PE literature.

In addition, the extant literature has scarcely analyzed the effect of VC/PE involvement in FCBs across generations. There is ample discussion in the family business literature about the performance of FCBs across generations, but the results are mixed. Recent studies report the existence of non-economic factors influencing managerial decisions, introducing the concept of socioemotional wealth (SEW) of ownership for the family (Gomez-Mejía, Haynes, Núñez-Nickel, Jacobson & Moyano-Fuentes, 2007; Gomez-Mejía, Cruz, Berrone & De Castro, 2011; Wright & Kellermanns, 2011). The

desire to protect SEW may harm the strategic positioning of the FCB over time, since their managers would be reluctant to carry out the investments required to enhance the company's competitive edge. The desire to protect SEW may, in particular, reduce the incentive to accept a VC/PE investor as a shareholder in FCBs. Since the reluctance to accept external investors is higher in first generation FCBs (Gómez-Mejía et al., 2007), we aim to analyze why those companies approach VC/PE investors at that stage. In addition, we also aim to analyze to what extent the effect of VC/PE involvement is significantly different depending on the generation in which the investee firm receives VC/PE funding.

The empirical analyses are carried out on a large representative sample of Spanish FCBs and non-FCBs that received VC/PE funding between 1995 and 2005. We also take into consideration the generation in which FCBs received this treatment.

This paper contributes to the family business literature in different ways. First, we provide further evidence about the desire to protect SEW in first generation FCBs. Second, our paper provides new evidence on whether and how VC/PE funding positively influences investee FCB's performance. Third, it provides additional evidence on the discussion about performance of FCBs across generations. Finally, following the suggestion of Sharma, Chrisman and Chua, (1997), we contribute to the introduction of a new dependent variable (i.e. the total factor productivity growth) in family-business research to measure the outcomes of decisions and actions.

The rest of the paper is structured as follows. In the second section we discuss VC/PE involvement and its effect on growth and performance in FCBs

across generations and develop our research hypotheses. In the third section we describe the data and the methodology. In the fourth section we present the results of the empirical analyses. In the fifth section we provide additional evidence on our results. Finally, in the last section, we discuss the implication of the results and conclude.

2.2. SOCIOEMOTIONAL WEALTH AND VENTURE CAPITAL IN FAMILY BUSINESSES

New and adapted theories have been published recently to increase our understanding of family attitudes, among which a new framework describing the SEW, or affective endowments, of family owners should be highlighted. Owners of FCBs are concerned not only with financial returns but also with the desire to protect their SEW in those firms as Gómez-Mejía et al. (2007) observed in their study. On their results Gómez-Mejía et al. (2011) developed five broad categories to describe different dimensions influencing managerial decisions under the SEW umbrella: organizational choices concerning management processes, firm strategies, corporate governance, stakeholder relations and business venturing. They argue that SEW explains many of these choices. Contingency factors, such as family stage, firm size, firm hazard, and the presence of non-family shareholders, moderate the influence of SEW preservation on managerial decisions in FCBs (Gómez-Mejía et al., 2011).

The SEW concept is developed on a generational perspective (Gómez-Mejía et al., 2007) emphasizing that attitudes of family members differ across generations, thus affecting their capacity to influence the company's strategic direction (Sonfield & Lussier, 2004). According to the SEW perspective, the

degree of family identification, influence and personal investment in the firm changes as the company evolves across generations (Gomez-Mejia et. al, 2007). McConaughy and Phillips (1999) find that founder-controlled firms grow faster and invest more in capital assets and research and development than descendant-controlled firms, but the latter are more profitable.

In general, results of the analysis of the performance of FCBs across generations are not univocal. Some works find evidence of a negative influence of founder's presence (Johnson, Magee, Nagarajan & Newman, 1985; McConaughy, Walker, Henderson & Mishra, 1998; Slovin & Sushka, 1993) since, for example, FCBs are seen as less efficient and professional, especially at the founding stage (Howorth et al., 2007). Conversely, other works highlight the positive influence of the founder's entrepreneurial spirit on the existence, growth and performance of the company (Sraer & Thesmar, 2007; Villalonga & Amit, 2006).

Since in first generation FCBs only the founding generation is present, ownership structures tend to be less dispersed than in descendent generation FCBs (Gómez-Mejía et al, 2007) and, as Wright, Hoskisson, Busenitz, & Dial (2001, p. 258) point out, 'more concentrated ownership creates incentives for managers to exploit the upside potential of applying entrepreneurial actions'. Further, low ownership dispersion decreases the likelihood of incurring costs to serve family members (Haynes, Walker, Rowe, & Hong, 1999) that could lead to negative business performance. Moreover, a less disperse ownership structure in founder FCBs should lead to lower agency costs because the risk of facing family conflicts (e.g. succession problems or draining of resources) tends to be lower (Miller & Le Breton-Miller, 2006). Moreover, regarding

employees, the number of family members involved in the business is likely to increase over time, and the selection method is not always based on their capabilities (Dyer, 2003), thus suggesting a decrease in management talent in following generation FCBs. Furthermore, the relationship between owners and employees tends to be stronger in first generation FCBs (Horton, 1986), and there is a higher understanding of the firms' local environment (Randøy & Goel, 2003). Finally, other studies do not find significant differences in performance (Westhead, 2003). Results for founder's influence are also mixed (e.g. Wright & Kellermanns, 2011). There is also a dark side of founders' positive influence, as irrational behavior in combination with low results might convert in a strategic impasse, as Gómez-Mejía et al. (2007) highlight. They indicate that founders' might reject helping sell of shares by the corporative, despite a decrease of performance. Overall, these results indicate that there could be a peak in founder's positive influence, which is consistent with the perspective of the SEW of ownership for the family (Gómez-Mejía et al., 2011; Wright & Kellermanns, 2011).

VC/PE involvement may reduce the negative effects of the desire to protect SEW on family performance. VC/PE investors address some of the issues that are linked to SEW preservation, such as succession, professionalization of the company, growth and diversification. VC/PE institutions are specialized investors with outstanding screening abilities (Zacharakis & Meyer, 2000) who allocate money to companies with promising growth opportunities. In addition to funding, they also contribute to 'build winners' by providing effective monitoring (Kaplan & Strömberg, 2003; Lerner, 1995; Sahlman, 1990) as well as other value-adding services. The close

supervision of investee firms after the initial VC/PE investment contributes to reducing agency costs and enhances firm performance (Admati & Pfleiderer, 1994; Lerner, 1995). But agency theory neglects to consider the effect of a key coaching function (Colombo & Grilli, 2010; Hellman & Puri, 2002), which is also relevant in the value creation process.

Even though the share of FCBs in the portfolios of VC/PE investors is small (Martí et al., 2013), many FCBs receive VC/PE funding, and a significant percentage of them are invested when the first generation is still running the business. In accordance with Gómez-Mejía et al. (2007), the desire to protect SEW would discourage FCBs from approaching VC/PE investors, especially in first generation FCBs. This apparent contradiction could be explained by the possible underperformance of the target company. From the perspective of capital structure theory, FCBs strongly adhere to the logic of the pecking order theory (Dunn & Hughes, 1995; Poutziouris, 2001; López-Gracia & Sánchez-Andújar, 2007), which affirms that there is a hierarchical order of potential financing sources and internally generated resources are preferred to external ones (Myers & Majluf, 1984).

Low performing companies would not generate enough resources internally to cover their financing needs and would try to access external sources of financing. Since information asymmetry problems limit the banks' ability to analyze the risk of investment projects in unquoted companies, specialized equity investors such as VC/PE institutions would become a last resort (Bertoni, Ferrer & Martí, 2012).

In addition, there is evidence indicating that families try to secure the long-term survival of the company, even at the risk of jeopardizing SEW.

Gómez-Mejía et al. (2007) affirm that family-owned mills are more willing to join corporations (i.e. to sell shares and control to non-family shareholders) when the company is experiencing business trouble. In the same vein, Gómez-Mejía, Makri & Larraza-Kintana (2010) find that family shareholders of large, publicly traded FCBs are more likely to diversify their holdings as business risk increases. According to Gomez-Mejía et al. (2011), which find that founder FCBs with decreasing results are more willing to accept the entry of external investors, such as VC/PE institutions, we state our first hypothesis as follows:

Hypothesis 1.: *Due to the desire to protect SEW, only low performing first generation FCBs accept VC/PE investors as external shareholders.*

As to the expected impact of VC/PE investors in FCBs, in general, family issues are hard to handle for outsiders (Haynes & Usdin, 1997; Kaye, 1991). Bammens, Voordeckers and van Gils (2008), Salvato and Melin (2008) and Sonfield and Lussier (2004), among others, provide evidence on differences in the contribution to value creation expected from family members across generations. In particular, the entrepreneurial orientation of the FCB is highest in the first generation (Cruz & Nordqvist, 2012). Managers in second or following generation FCBs could be more inclined to object to new venture initiatives and to avoid higher levels of business risk aiming to take advantage of growth opportunities. As a consequence, a significant improvement in performance is expected in first generation FCBs because VC/PE managers will enhance the company's entrepreneurial orientation (Gomez-Mejia et al., 2011)

by contributing with valuable coaching capabilities. In fact, even though first generation FCBs are more inclined to retain control (Gómez-Mejía et al., 2007), if an external investor is accepted on the board, the family managers would still have the entrepreneurial orientation that made possible the initial growth of the company. Therefore, it is easier for both parties to align their interests to start a new growth process with the assistance and funding of the VC/PE investor. Conversely, the decreasing entrepreneurial orientation of managers in FCBs in subsequent generations could delay the implementation of new investment initiatives.

In sum, based on the problems outlined in descendant generations (e.g. higher ownership dispersion, higher number of family members involved, lower entrepreneurial orientation, etc.), we verify that the impact of VC/PE is higher in first generation FCBs than in second or following generation ones. Accordingly, we agree with Scholes, Wright, Westhead & Bruining (2010) that the scope for efficiency gains and growth favored by the entry of VC/PE investors is significant in first generation FCBs as it should be easy for VC/PE investors to implement changes in monitoring and performance incentives and to start new entrepreneurial ventures in less established first generation FCBs. In accordance with Croce et al. (2013), we expect that the 'imprinting effect' of VC/PE investors would have an impact both in the short and the long term. [1] Therefore, our second hypothesis can be formulated as follows:

[1] The resources received in the initial years 'imprint' the company's future evolution. Milanov and Fernhaber (2009) affirm that the most sensitive years are the first three years since the firm is established. Since the entrance of a VC investor could be considered as a 're-birth' of the firm (Croce et al., 2013), we will define as short term the first three years after the initial VC investment and long term as the fourth and subsequent years.

Hypothesis 2a.: *The entry of a VC/PE investor in first generation FCBs leads to a significant improvement in performance, both in the short and the long term.*

Hypothesis 2b.: *The effect of VC/PE involvement on performance should be higher in first generation FCBs than in second or following generation FCBs, both in the short and the long term.*

2.3. DATA AND METHODOLOGY

2.3.1. DESCRIPTION OF THE SAMPLE

We focus our work on the Spanish market because there is a large number of FCBs, a few of them quoted, and there is also enough information on VC/PE investments available over a long period of time. The sources of VC/PE information are the Spanish Venture Capital Association (ASCRI) and www.webcapitalriesgo.com, which compile all individual VC/PE investments since 1991. We also collect accounting data on investee companies from the Official Trade Register and the AMADEUS Database. We focus our research on VC/PE investments performed between 1995 and 2005, with accounting data available until 2010. According to Martí, Salas and Alférez (2011), 1,815 VC/PE investments were recorded in Spain in that period, including all stages but excluding financial and real estate sectors, as well as investments carried out abroad by Spanish VC/PE institutions. We were able to fully identify 1,508 of them in the Official Trade Registers, but full accounting data were only

available on 1,335 companies. By stage of development of the investee company, there were 599 early stage firms, 573 companies at the expansion stage and 163 mature firms that were subject to a buyout or a replacement deal.[2]

Since we estimate our models with the GMM (Blundell & Bond, 2000) methodology, we need at least five consecutive observations to define instruments properly, with the year of the initial investment being one of them. As a result, our sample size shrinks to 673 companies.

The final step in the sampling process is to investigate the family or non-family nature of those firms. Based on information gathered from the AMADEUS database, the firms' websites, the official corporate news releases (BORME) and press clippings, we define FCBs as those whose ultimate largest shareholder is a family, or individuals closely linked to a family group.[3] On these grounds we identify 197 FCBs and 476 non-FCBs, with FCBs representing 29.3 percent of all sample firms.

Table 2.1. reports the distribution of VC/PE-backed FCBs and non-FCBs firms by year of initial investment, by stage of development of the portfolio company at the time of the initial VC/PE investment and by activity sector. FCBs are mostly manufacturing companies at the expansion stage.

[2] We classify a firm as an early stage investment if it receives funding to complete the final development of the product or service to be distributed (seed), or already has a product or service and is raising money to launch the manufacturing and distribution of the product (start-up). Expansion stage investments are defined as equity or quasi-equity investments in existing firms with at least one profitable line of business. The investor acquires either a majority or a minority stake in those transactions and most of the money is used to buy existing shares.

[3] This definition is in accordance with the official family business definition given by GEEF (European Group of Owner Managed and Family Enterprises) and FBN (Family Business Network) in 2008 and also adopted by the IEF (Family Business Institute in Spain).

TABLE 2.1.
FULL SAMPLE OF VC/PE-BACKED FCBS AND NON-FCBS FIRMS

PANEL A. BREAKDOWN BY YEAR OF INITIAL VC/PE INVESTMENT.

Year	*FCBs*		*Non-FCBs*		*All*	
	Nº firms	*%*	*Nº firms*	*%*	*Nº firms*	*%*
1995	6	3.05	27	5.67	33	4.90
1996	9	4.57	25	5.25	34	5.05
1997	12	6.09	38	7.98	50	7.43
1998	26	13.20	34	7.14	60	8.92
1999	22	11.17	32	6.72	54	8.02
2000	26	13.20	68	14.29	94	13.97
2001	23	11.68	34	7.14	57	8.47
2002	15	7.61	34	7.14	49	7.28
2003	32	16.24	75	15.76	107	15.90
2004	10	5.08	62	13.03	72	10.70
2005	16	8.12	47	9.87	63	9.36
Total	197	100	476	100	673	100

PANEL B. BREAKDOWN BY STAGE OF DEVELOPMENT.

Stage	*FCBs*		*Non-FCBs*		*All*	
	Nº firms	*%*	*Nº firms*	*%*	*Nº firms*	*%*
Early stage	30	15.23	158	33.19	188	27.93
Expansion	136	69.04	248	52.10	384	57.06
Later stage	31	15.74	70	14.71	101	15.01
Total	197	100	476	100	673	100

PANEL C. BREAKDOWN BY ACTIVITY SECTOR.

Industry	*FCBs*		*Non-FCBs*		*All*	
	Nº firms	*%*	*Nº firms*	*%*	*Nº firms*	*%*
Technology, Media & Telecom	10	5.08	80	16.81	90	13.37
Manufacturing	120	60.91	177	37.18	297	44.13
Primary and Energy	1	0.51	17	3.57	18	2.67
Services	66	33.50	202	42.44	268	39.82
Total	197	100	476	100	673	100

Source: Based on the information collected from ASCRI, www.webcapitalriesgo.com and the AMADEUS Database.

In Table 2.2. we report sales and employees of VC/PE-backed FCBs according to the generation in which the VC/PE investor was involved.

TABLE 2.2.
BREAKDOWN OF VC/PE-BACKED FCBS BY SIZE CONSIDERING THE GENERATION IN WHICH THE VC/PE INVESTOR WAS INVOLVED

Size reference	*1ST generation FCBs*		*Following generations FCBs*		*All*	
	Nº firms	*%*	*Nº firms*	*%*	*Nº firms*	*%*
Employees (Number)						
Under 10	20	17.86	14	16.47	34	17.26
Between 10 and 50	39	34.82	29	34.12	68	34.52
Between 50 and 250	40	35.71	29	34.12	69	35.03
Over 250	13	11.61	13	15.29	26	13.20
Total	112	100	85	100	197	100
Sales (Euro Thousands)						
Under 2,000	31	27.68	20	23.53	51	25.89
Between 2,000 and 10,000	41	36.61	25	29.41	66	33.50
Between 10,000 and 50,000	29	25.89	28	32.94	57	28.93
Over 50,000	11	9.82	12	14.12	23	11.68
Total	112	100	85	100	197	100

Source: Based on the information collected from ASCRI, www.webcapitalriesgo.com and the AMADEUS Database.

2.3.2. MODELS AND METHODOLOGY

Rather than sales or earnings growth, we focus on total factor productivity (hereinafter, TFP) to measure performance. By focusing on TFP growth we are able to control for the additional funding received by the investee company since the increase in output would be balanced with the additional inputs that the company received (Croce et al., 2013). We aim to analyze the effect of VC/PE financing, in terms of both screening and value-

added, in FCBs (first generation vs. second or following generations) and non-FCBs. Our empirical models are based on model 4 from Croce et al. (2013), which is modified as follows:

$$\text{TFP\_growth}_{it} = \alpha_0 + \sum_{j=1,f} \gamma_{pre_{fj}} VC^{pre}_{i,t} * d_{family_{gj}} + \gamma_{short} VC^{short}_{i,t} + \sum_{j=1,f} \gamma_{short_{fj}} VC^{short}_{i,t} * d_{familygj} + \gamma_{long} VC_{i,t-long} + j=1,f \gamma_{longfj} VC_{i,t-long} * d_{familygj} + \beta x_{i,t} + \mu_i + \varepsilon_{it} \quad [1]$$

where the dependent variable $\text{TFP\_growth}_{i,t}$ is one-year TFP growth of firm i in year t.[4] Regarding the independent variables, in order to distinguish between FCBs in first and second or following generations we include two dummies: $d_{family_{g1}}$ is a dummy variable that equals 1 for FCB *i* in first generation and 0 otherwise, whereas $d_{family_{gf}}$ equals 1 for FCBs in second or following generations, and 0 otherwise. As for the VC variable, $VC^{pre}_{i,t}$ is a dummy variable that equals 1 before receiving VC/PE funding, or 0 otherwise; $VC^{short}_{i,t}$ is a dummy that equals 1 in the first three years following the year of the initial VC/PE investment and 0 otherwise; $VC^{long}_{i,t}$ equals 1 for later years (i.e. from t+4 onwards) in investee companies, and 0 otherwise. $x_{i,t}$ is a set of control variables that includes the stage of development and the age of the investee firm.[5] Moreover, we include three dummy variables representing whether the VC/PE investor investing in company *i* has a high, medium or low amount of funds under management. This represents a signal of reputation in Spanish VC/PE institutions (Balboa & Martí, 2007). We also include industry dummies

[4] We base our TFP estimations on the GMM-system (GMM-SYS) estimator developed by Blundell and Bond (2000). According to Van Biesebroeck (2007), we estimate TFP separately for each industry. Then, in the final step, the residuals of the production function are used to estimate firm's TFP growth.

[5] We assume that companies that are starting up will show higher TFP growth levels than more mature firms. Similarly, younger firms will experience higher TFP growth than older companies.

and year dummies that allow us to control for cross-sectional differences among industries and over time, respectively. Finally, μ_i are firm-fixed effects inserted to control for unobserved heterogeneity at firm-level that may lead to a biased estimate of VC/PE coefficients. ε_{it} is an i.i.d. error term.

To test our H1 we look at the coefficient $\gamma_{pre_{f1}}$. A negative and significant value of this coefficient would confirm our H1 on the screening effect of VC/PE: first generation FCBs would present a lower TFP growth than non-FCBs in the years before the VC/PE investment. Conversely, for second or following generation FCBs, we expect that the coefficient $\gamma_{pre_{ff}}$ would be non significant as the need to protect SEW assumes a lower relevance in defining firm's strategies (i.e. no differences are expected in TFP growth levels, before the entry of VC/PE, between the groups of non-FCBs and second or following generation FCBs). A positive and significant value of γ_{short} (γ_{long}) indicates that VC/PE has a short (long) term effect on productivity in non-FCBs. In order to test our H2a, we evaluate both these short and long term effects, net of the screening effect, on FCBs (first and second or following generations) by resorting to the Wald tests on the linear combination of parameters as described in Panel B of Table 2.4.[6] Moreover, in order to test H2b, we compare the VC/PE effect (in both short and long term) between first generation FCBs and second or following generation FCBs. Again the Wald tests used are reported in the last rows of Table 2.4. [7]

[6] In GMM estimations the coefficient of $VC_{i,t}^{pre}$ is always excluded in estimates and, thus, in linear combination tests.

[7] As robustness check, in order to exclude any screening effect between FCBs and non-FCBs, we only focus on FCBs. We thus estimate the effect of VC financing on FCB's productivity through the following model:

Finally, as a robustness check, we exclude any screening effect completely and, in order to assess the value added provided by VC/PE investors (both in the short and the long term), we estimate separately this simple model for first generation and second or following generation FCBs:

$$\mathrm{TFP}_{\mathrm{growth}_{it}} = \alpha_0 + \beta x_{i,t} + \theta_{\mathrm{short}} \ \mathrm{VC}_{i,t}^{\mathrm{short}} + \theta_{\mathrm{long}} \ \mathrm{VC}_{i,t}^{\mathrm{long}} + \mu_i + \varepsilon_{it} \qquad [2]$$

We estimate equations [1] and [2] with different procedures. We start with Ordinary Least Squares (OLS) estimation in which we treat firm-specific effects as equal among all firms. We continue with random effects (RE) estimated with robust standard errors. In OLS and RE estimations we control for selection by inserting additional terms (i.e. $\mathrm{VC}_{i,t}^{\mathrm{pre}}$) to isolate TFP growth differences between VC/PE-backed FCBs (first and second or following generations) and non-FCBs before the initial VC/PE round. In addition, to further address endogeneity problems that could distort the analysis of the value-adding effect of VC/PE involvement, we also resort to the two-step difference generalized method of moments (GMM-DIFF) estimator (Arellano & Bover, 1995; Blundell & Bond, 1998) with finite-sample correction (Windmeijer, 2005). In the specification estimated with the GMM-DIFF estimator we exclude the additional term included in OLS and RE estimations

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$\mathrm{TFP}_{\mathrm{growth}_{it}} = \alpha_0 + \beta x_{i,t} + + \delta_{\mathrm{pre}_{f1}} \mathrm{VC}_{i,t}^{\mathrm{pre}} * \mathrm{d}_{\mathrm{family}_{g1}} + \delta_{\mathrm{short}_{\mathrm{family}}} \mathrm{VC}_{i,t}^{\mathrm{short}} + \delta_{\mathrm{short}_{f1}} \mathrm{VC}_{i,t}^{\mathrm{short}} * \mathrm{d}_{\mathrm{family}_{g1}} + \delta_{\mathrm{long}_{\mathrm{family}}} \mathrm{VC}_{i,t}^{\mathrm{long}} + \delta_{\mathrm{long}_{f1}} \mathrm{VC}_{i,t}^{\mathrm{long}} * \mathrm{d}_{\mathrm{family}_{g1}} + \mu_i + \varepsilon_{it}$

According to H1 we expect $\delta_{\mathrm{pre}_{f1}}$ to be negative and significant, indicating a lower productivity in the pre-investment period for first generation FCBs. As for equation [1], to study both the short and long term effects of VC, net of the screening effect, on FCBs and compare them, we need to perform the Wald tests on the linear combinations of parameters. Results, which are in line with those presented in Section 4, are not reported in the text for the sake of brevity. They are available from the authors upon request.

and consider the VC variables as endogenous (i.e. instruments start from t-2).[8]

2.3.3. DESCRIPTIVE STATISTICS

This study deals with a total sample of 673 investee firms, 197 of which are FCBs (112 in first generation and 85 in second or following generations). In the first columns of Table 2.3., we report some descriptive statistics about size (in terms of total assets, fixed assets and sales), employment (in terms of payroll expenses and headcount) and age for FCBs and non-FCBs.

TABLE 2.3.
PRE AND POST-INVESTMENT DESCRIPTIVE STATISTICS OF COMPANY CHARACTERISTICS

		FCBs vs non-FCBs							1ST GENERATION (1G) vs. FOLLOWING GENERATIONS (FG) FCBs							
		PRE-INVESTMENT				POST-INVESTMENT				PRE-INVESTMENT				POST-INVESTMENT			
		FCBs	*Non-FCBs*	*FCBs vs. non-FCBs*		*FCBs*	*Non-FCBs*	*FCBs vs. non-FCBs*		*1G*	*FG*	*1G vs. FG*		*1G*	*FG*	*1G vs. FG*	
Total assets†	Mean	16986.79	25546.69	-8559.9	***	41046.37	39719.16	1327.21		14054.23	21152.18	-7097.95	***	32483.8	52482.98	-19999.18	***
	Median	5193	5790			10966	8602			4623	6053			8704	14903		
	Obs	973	1652			1343	3105			571	402			768	575		
Fixed assets†	Mean	7102.01	13145.92	-6043.91	***	22300.33	23628.7	-1328.37		5858.06	8868.91	-3010.85	**	14681.18	32476.88	-17795.7	***
	Median	1879	1888			4562	3381			1736	1968.5			3850	6277		
	Obs	973	1652			1343	3105			571	402			768	575		
Sales†	Mean	17452.39	28921.94	-11469.55	***	30939.1	35052.63	-4113.53		13547.35	22999.09	-9451.74	***	24958.22	38927.47	-13969.25	***
	Median	6011	5156			8747	6263			4706	7396			6630.5	11486		
	Obs	973	1652			1343	3105			571	402			768	575		
Payroll expenses†	Mean	2832.62	4875.88	-2043.26	***	5367.51	6465.76	-1098.25	*	2310.66	3574.01	-1263.35	***	4688.97	6273.8	-1584.83	**
	Median	1008	1208			1958	1560			919	1185			1779.5	2296		
	Obs	973	1652			1343	3105			571	402			768	575		
Head-count	Mean	100.43	178.55	-78.12	***	186.52	268.88	-82.37	**	90.02	115.21	-25.2	*	168.26	210.9	-42.64	*
	Median	42	43			66	51			41	44			66	65		
	Obs	973	1652			1343	3105			571	402			768	575		
Age	Mean	16.7	12.38	4.32	***	21.26	15.08	6.18	***	13.02	21.92	-8.9	***	17.65	26.07	-8.41	***
	Median	15	8			19	11			12	20			17	24		
	Obs	973	1652			1343	3105			571	402			768	575		
TFP growth	Mean	-0.04	0.028	-0.068	*	0.008	0.041	-0.033		-0.076	0.011	-0.087	**	0.028	-0.019	0.047	
	Median	-0.008	-0.003			-0.003	0.001			-0.016	0			-0.009	0		
	Obs	973	1652			1343	3105			571	402			768	575		

***, **, and * represent statistical significance of 1%, 5% and 10%, respectively. † Data are expressed in thousand € and deflated by CPI (reference year: 2005).

[8] However, to avoid that the use of a large number of instruments results in significant finite sample bias, and that measurement errors cause potential distortions in our estimates, the instrument set is restricted with moment conditions in the interval between t-2 and t-4 (see Bond, 2002).

We show summary statistics, such as mean, median and number of observations for each category in both pre and post-investment periods. Moreover, for every variable, we perform t-tests on the difference-in-mean between the group of FCBs and the group of non-FCBs. We find that there are significant differences between the two groups before the initial VC/PE round. In particular, FCBs are smaller in terms of both output and input variables of the production function (sales, capital and labor costs). Conversely, after the first round of VC/PE financing, on average, FCBs are able to increase their revenues and capital (in terms of total assets, fixed assets and sales) whereas labor costs are still lower than those paid by non-FCBs. This evidence seems to suggest a positive effect of VC/PE on the growth of the investee companies. In the last columns of Table 2.3. we compare FCBs in first generation vs. FCBs in second or subsequent generations. As expected, first generation FCBs seem to be significantly smaller and younger than second or subsequent generation ones in both pre and post-investment periods. In the last rows of Table 2.3. we specifically focus on TFP growth. Results indicate that, before the involvement of VC/PE investors, FCBs seem to show a lower TFP growth than non-FCBs ones. In addition, among FCBs, first generation firms show a lower productivity growth than FCBs in descendant generations. However, in both cases, differences become non-significant after the entry of the VC/PE investors.

Overall, these unconditional summary statistics suggest that VC/PE investors seem to invest in FCBs with lower performance, especially in the first generation, and they contribute to increasing firm's productivity growth, again, especially in founder generation FCBs.

2.4. RESULTS

The regression results of equation [1] on the full sample of VC/PE-backed firms, including both FCBs and non-FCBs, are shown in Panel A of Table 2.4. The three columns report ordinary OLS, RE and GMM-DIFF estimations. Regarding screening, our results show that, in accordance with what is shown in the descriptive statistics (Section 3.3), FCBs that received VC/PE funding during the first generation showed TFP growth levels significantly lower than those found in non-FCBs investees prior to the VC/PE investment event. Nevertheless, this was not the case of FCBs in second or following generations, which did not exhibit significant differences with non-FCBs in TFP growth prior to the initial VC/PE investment. This finding confirms our first hypothesis.[9]

[9] We address the screening hypothesis in Subsection 2.5 by providing further evidence to our results.

TABLE 2.4.
SHORT AND LONG TERM EFFECTS OF VC/PE ON TFP GROWTH IN VC/PE-BACKED FCBS AND NON-FCBS.

PANEL A. REGRESSION RESULTS

	coeff	OLS		RE		GMM	
$VC_{i,t}^{pre} * d_{family_{g1}}$	$\gamma_{pre_{f1}}$	-0.0999	***	-0.0999	***		
		(0.033)		(0.033)			
$VC_{i,t}^{pre} * d_{family_{gf}}$	$\gamma_{pre_{ff}}$	0.0004		0.0004			
		(0.035)		(0.035)			
$VC_{i,t}^{short}$	γ_{short}	0.0802	**	0.0802	**	0.0682	
		(0.034)		(0.034)		(0.058)	
$VC_{i,t}^{short} * d_{family_{g1}}$	$\gamma_{short_{f1}}$	-0.0082		-0.0082		0.4102	***
		(0.054)		(0.054)		(0.071)	
$VC_{i,t}^{short} * d_{family_{gf}}$	$\gamma_{short_{ff}}$	-0.0640		-0.0640		-0.2662	**
		(0.043)		(0.043)		(0.117)	
$VC_{i,t}^{long}$	γ_{long}	0.0310		0.0310		0.0619	
		(0.030)		(0.030)		(0.07)	
$VC_{i,t}^{long} * d_{family_{g1}}$	$\gamma_{long_{f1}}$	0.0223		0.0223		0.4474	**
		(0.025)		(0.025)		(0.191)	
$VC_{i,t}^{long} * d_{family_{gf}}$	$\gamma_{long_{ff}}$	0.0000		0.0000		-0.3019	**
		(0.033)		(0.033)		(0.129)	
$Age_{i,t}$		-0.0016	***	-0.0016	***	-0.0051	
		(0.000)		(0.000)		(0.004)	
$Stage_i$		-0.0447	***	-0.0447	***		
		(0.013)		(0.013)			
Small size VCs_i		-0.0018		-0.0018		-0.0857	
		(0.021)		(0.021)		(0.078)	
Medium size VCs_i		0.0003		0.0003		-0.0686	
		(0.02)		(0.02)		(0.056)	
Intercept	α_0	0.2199		-0.0001			
		(0.164)		(0.057)			
N.obs.		7073		7073		6384	
N.firms		673		673		673	
Hansen test						95.7245 [92]	
AR1						-6.9491	***
AR2						1.4160	

TABLE 2.4. (CONT.)

PANEL B. SHORT AND LONG TERM EFFECTS OF VC/PE ON FCBS PRODUCTIVITY GROWTH

VC/PE impact on 1ST generation FCBs	Short-term	$\gamma_{short} + \gamma_{short_{f1}} - \gamma_{pre_{f1}}$	0,1720	**	0,1720	**	0,4784	***
			(0.071)		(0.071)		(0.0399)	
	Long-term	$\gamma_{long} + \gamma_{long_{f1}} - \gamma_{pre_{f1}}$	0,1533	***	0,1533	***	0,5094	***
			(0.039)		(0.039)		(0.1605)	
VC/PE impact on following generation FCBs	Short-term	$\gamma_{short} + \gamma_{short_{ff}} - \gamma_{pre_{ff}}$	0,0158		0,0158		-0,198	*
			(0.057)		(0.057)		(0.108)	
	Long-term	$\gamma_{long} + \gamma_{long_{ff}} - \gamma_{pre_{ff}}$	0,0306		0,0306		-0,24	*
			(0.049)		(0.049)		(0.143)	
Difference VC/PE impact (1ST generation vs. following generations FCBs)	Short-term	$\gamma_{short_{f1}} - \gamma_{pre_{f1}} - \gamma_{short_{ff}} - \gamma_{pre_{ff}}$	0,1562	*	0,1562	*	0,6764	***
			(0.086)		(0.086)		(0.122)	
	Long-term	$\gamma_{long_{f1}} - \gamma_{pre_{f1}} - \gamma_{long_{ff}} - \gamma_{pre_{ff}}$	0,1227	**	0,1227	**	0,7494	***
			(0.058)		(0.058)		(0.290)	

Estimates of Equation [1]. The dependent variable is total factor productivity growth. The independent variables are: (1) $VC_{i,t}^{pre}$ is a dummy variable that equals 1 prior to the year of the initial investment, or 0 otherwise; (2) $d_{family_{g1}}$ is a dummy variable that equals 1 in family firm i in first generation, or 0 otherwise; (3) $d_{family_{gf}}$ is a dummy variable that equals 1 for family firm i in second or following generations, or 0 otherwise; (4) $VC_{i,t}^{short}$ is a dummy that equals 1 in the first three years following the year of the initial VC investment, or 0 otherwise; (5) $VC_{i,t}^{long}$ equals 1 for later years (i.e. from t+4 onwards), and 0 otherwise; (6) $Age_{i,t}$ is the age of company *i* in year *t*; (7) $Stage_i$ is the stage of development (i.e. early, expansion or late stage) of company *i* at the time of the initial VC/PE round; (8) is dummy that equals 1 if the investee company received funding from a VC/PE investor with less than €50 million under management, or 0 otherwise; (9) is dummy that equals 1 if the investee company received funding from a VC/PE investor with funds under management amounting between €50 and €150 million, or 0 otherwise. OLS, RE and GMM columns refer to the estimations based on the full sample, including both family and non-family VC/PE-backed firms. Estimates are derived from OLS and RE regressions with robust clustered standard errors and difference GMM estimations. Standard errors in round brackets. Degrees of freedom in square brackets. ***, ** and * indicate, respectively, significance levels of <1%, <5% and <10%.

The variable $\mathbf{VC_{i,t}^{short}}$ reports that TFP growth is positive and significant, on average, in VC/PE-backed companies (both family and non-family-controlled businesses) in the first three years after the initial investment, but only when the models are estimated using OLS or RE techniques. Nevertheless, our main interest is to check how VC/PE investors are able to

add value in FCBs over time and across generations. The effective predictions are based on the Wald tests shown in Panel B of Table 2.4. We find that, in the first three years after the initial VC/PE round, there is a significant TFP growth in FCBs which receive VC/PE funding in the first generation. This result confirms our hypothesis 2a. Moreover, this result is consistent with the positive effect found in the GMM column, which does not require controlling for the endogeneity of the VC/PE investment.

Conversely, there is not a significant effect on TFP growth of VC/PE involvement in the first three years after the investment in FCBs in second or following generations. GMM estimation of the model even shows a negative coefficient for the variable $\mathbf{VC}_{\mathbf{i,t}}^{\mathbf{short}}$. Regarding the long term effect (i.e. from the fourth year after the initial investment onwards), results show a non-significant impact of VC/PE on non-FCBs. In the case of FCBs, as shown in Panel B of Table 2.4., we find that a significant TPF increase engendered by VC/PEs is found when FCBs are in the first generation. This result also holds when the estimation is carried out using the GMM methodology. Conversely, a non-significant effect in the long term TFP growth levels is found in FCBs that were subject to a VC/PE investment when they were in second or following generations. Furthermore, a marginally significant negative coefficient is found when the model is estimated with the GMM methodology. In addition, in the last two rows of Panel B of Table 2.4. we test our hypothesis 2b on whether there are significant differences in TFP growth rates between FCBs in first and second or following generations, both in the short and long term. It should be remarked that, regardless of the estimation technique employed, short term and long term TFP growth rates are significantly different between both

groups, confirming our hypothesis 2b, with the results showing the highest significance level in the case of coefficients estimated using the GMM-DIFF methodology.

As a check, we estimate Equation [2] separately for the two subsamples of FCBs backed by VC/PE institutions, namely those that received VC/PE funding in the first generation and those being funded in second or following generations. In this model there is no need to control for selection (i.e. analysis of TFP growth before the initial VC/PE investment) because regressions are carried out separately for both groups. The results are reported in Table 2.5. For FCBs in the first generation, we find a positive and significant growth in TFP, both in the short and in the long term, regardless of the estimation method employed. Conversely, we do not find significant TFP growth in firms in second or following generations, either in the short or the long term, in FCBs in second or following generations in columns OLS and RE. We do find significant values in the GMM column that would show positive long term performance in FCBs in second or following generations. Nevertheless, this difference is not significant when it is compared with long term growth of first generation FCBs. In addition, we have to report that GMM estimations could not be reliable in this group due to the lack of significance of AR1. Consequently, again, our hypothesis 2b is confirmed.

TABLE 2.5.
SHORT AND LONG TERM EFFECTS OF VC/PE ON TFP GROWTH IN VC/PE-BACKED FCBS ACROSS GENERATIONS

	1st generation FCBs			Following generations FCBs		
	OLS	RE	GMM	OLS	RE	GMM
$VC_{i,t}^{short}$	0,1932 **	0,1932 **	0,1052 ***	0,0115	0,0115	0,0882 ***
	(0.084)	(0.084)	(0.032)	(0.064)	(0.064)	(0.033)
$VC_{i,t}^{long}$	0,1858 ***	0,1858 ***	0,0942 **	-0,0061	-0,0061	0,0951 ***
	(0.053)	(0.053)	(0.043)	(0.068)	(0.068)	(0.034)
$Age_{i,t}$	-0,0013	-0,0013		-0,0001	-0,0001	
	(0.002)	(0.002)		(0.001)	(0.001)	
$Stage_i$	0,0172	0,0172		0,0096	0,0096	
	(0.02)	(0.02)		(0.024)	(0.024)	
Small size VCs_i	-0,0445	-0,0445	-0,103	-0,0121	-0,0121	0,0645
	(0.028)	(0.028)	(0.106)	(0.055)	(0.055)	(0.065)
Medium size VCs_i	-0,0135	-0,0135	-0,0301	-0,0389	-0,0389	0,02
	(0.029)	(0.029)	(0.086)	(0.047)	(0.047)	(0.021)
Intercept	-0,1263	-0,3164 ***		0,5693 ***	-0,0039	
	(0.093)	(0.083)		(0.061)	(0.137)	
N.obs.	1339	1339	1226	977	977	888
N.firms	112	112	112	85	85	85
Hansen test			39.002 [51]			45.7915 [52]
AR1			-2,5887 ***			-1,5784
AR2			1,1652			1,096

Estimates of Equation [2]. The dependent variable is total factor productivity growth. The independent variables are: (1) $VC_{i,t}^{short}$ is a dummy that equals 1 in the first three years following the year of the initial VC investment in FCB, or 0 otherwise; (2) $VC_{i,t}^{long}$ equals 1 for later years in FCB, and 0 otherwise; (3) $Age_{i,t}$ is the age of company *i* in year *t*; (4) $Stage_i$ is the stage of development (i.e. early, expansion or late stage) of company *i* at the time of the initial VC round; (5) is dummy that equals 1 if the investee company received funding from a VC investor with less than €50 million under management, or 0 otherwise; (6) is dummy that equals 1 if the investee company received funding from a VC investor with funds under management amounting between €50 and €150 million, or 0 otherwise. OLS, RE and GMM columns refer to the estimations based on the subsample of VC-backed FCBs. Estimates are derived from OLS and RE regressions with robust clustered standard errors and system GMM estimations. Standard errors in round brackets. Degrees of freedom in square brackets. ***, ** and * indicate, respectively, significance levels of <1%, <5% and <10%.

To sum up, VC/PE investors seem to select first generation FCBs exhibiting lower TFP growth than other VC/PE-backed FCBs and non-FCBs and are able to increase TFP growth significantly both in the short and the long

term. This is in accordance with our hypotheses because the entrepreneurial orientation of the family managers is higher in these firms than in second and further generations FCBs. As a result, VC/PE investors are able to implement their value-adding activities with fewer conflicts than those found in FCBs in descendant generations.

2.5. FURTHER EVIDENCE ON SCREENING

In the previous section we showed that, before receiving VC/PE funding, FCBs in first generation exhibit significantly lower TFP growth than other investee firms, both non-FCBs and FCBs in second or following generations. We interpreted this result as a confirmation of hypothesis 1, since first generation FCBs would only approach VC/PE investors if their troubles in sustaining firm's growth outweigh the desire to protect their SEW.

In order to better exploit the screening hypothesis, in this section, we perform a further analysis by introducing a matched sample of non-VC/PE-backed FCBs. We aim to verify, by resorting to a selection equation, that the receipt of VC/PE financing is negatively correlated with productivity growth in first generation FCBs, whereas this relationship is not significant in second or following generation FCBs.

We built a matched sample of non-VC/PE-backed FCBs that is comparable to the sample of VC/PE-backed FCBs according to a set of *a priori* defined characteristics (for a similar procedure in the VC/PE literature, see e.g. Chemmanur et al., 2011; Croce et al., 2013). Control group companies are

identified using a propensity score method. [10] The aim is to find, for each FCB that received VC/PE financing in year t, the non-VC/PE-backed FCB that, in the same year, had the most similar probability (i.e. propensity score) of receiving VC/PE.[11] We run the matching procedure separately for first generation FCBs and second or following generation ones. After matching the sample is composed of 174 VC/PE-backed FCBs (110 of which are in first generation) and 140 non-VC/PE-backed FCBs (73 of which are in first generation).

In Table 2.6., we report some descriptive statistics about size (in terms of total assets and sales), employment (in terms of payroll expenses and headcount), age and TFP growth for VC/PE-backed and matched non-VC/PE-backed FCBs.

[10] We performed a nearest neighbor matching. The sampling of the control group is performed with replacement so that each control group firm can be selected as a match for more than one VC-backed firm (possibly in different years).

[11] Propensity scores are obtained by estimating, for each year, a probit model in which the dependent variable is the occurrence of a VC investment and independent variables include: age, size (measured by the end-of-period book value of firm's total assets), sales, intangible assets to total assets, region and industry controls.

TABLE 2.6.
PRE AND POST-INVESTMENT DESCRIPTIVE STATISTICS OF VC/PE-BACKED VS NON-VC/PE-BACKED FCBS.

		PRE-INVESTMENT			POST-INVESTMENT			
		Non-VC-backed	*VC-backed*	*VC vs. non-VC-backed*	*Non-VC-backed*	*VC-backed*	*VC vs. non-VC-backed*	
Total assets†	Mean	10616.030	11901.150	1285.120	13537.010	28076.090	14539.080	***
	Median	2446.000	4845.000		3205.000	10358.000		
	Obs	1136	977		552	998		
Sales†	Mean	12343.320	11615.420	-727.900	5011.130	13025.190	8014.060	***
	Median	2988.500	5128.000		1034.000	4132.000		
	Obs	1136	977		552	998		
Payroll expenses†	Mean	1917.071	2081.381	164.310	13839.820	21834.270	7994.450	***
	Median	494.500	892.000		3749.000	8215.500		
	Obs	1136	977		552	998		
Head-count	Mean	65.409	73.291	7.882	86.533	136.552	50.019	***
	Median	23.000	38.000		28.000	62.000		
	Obs	1134	977		552	998		
Age	Mean	15.528	15.719	0.190	20.109	19.915	-0.194	
	Median	13.500	13.000		18.500	18.000		
	Obs	1136	977		552	998		
TFP growth	Mean	-0.0002	-0.012	-0.012	-0.005	0.005	0.010	
	Median	-0.0004	-0.006		-0.005	0.004		
	Obs	1136	977		552	998		

***, **, and * represent statistical significance of 1%, 5% and 10%, respectively. †Data are expressed in housand € and deflated by CPI (reference year: 2005).

We show summary statistics, such as mean, median and number of observations for each category in both pre and post-investment periods. Moreover, for every variable, we perform t-tests on the difference-in-mean between the group of VC/PE-backed FCBs and the matched control group. We do not find significant differences between VC/PE-backed FCBs and the matched control group before the initial VC/PE round. Conversely, after the first VC/PE round, VC/PE-backed firms are, on average, larger than non-VC/PE-backed firms in terms of total assets, sales, payroll expenses and headcount. As for TFP growth, no significant differences are found in both the pre and post-investment periods. These unconditional summary statistics

seem to suggest that VC/PE investors, on average, do not perform any screening activity on FCBs and do not significantly contribute to foster FCBs' productivity growth.

First, one may argue that, even among non-VC/PE-backed firms, the TFP growth in first generation FCBs is lower than that in following generation FCBs, thus meaning that the result cannot be related to VC/PE selection. However, we verify that, among non-VC/PE-backed firms, first generation FCBs do not show significant differences in their TFP growth, on average, than other FCBs (p-value of t-test equals to 0.817). This evidence allows us to conclude that only first generation FCBs with lower TFP growth look for VC/PE funding.

Second, we proceed to a multivariate analysis on screening by VC/PE by using a dynamic probit model in which the dependent variable is a binary dummy, identifying whether a firm receives VC/PE backing or not. This dependent variable is always equal to zero for all non-VC/PE-backed FCBs. For VC/PE-backed FCBs, it is zero in all years prior to receiving VC/PE financing, and it equals one in the year in which the firm receives VC/PE financing. It is set to missing in the following years.[12] As independent variables we include TFP growth, age, size (measured by the logarithm of total assets) and the stage of development of the company. Moreover, we also include the ratio between intangible assets and total assets as a measure of growth orientation (e.g. Caves, 1980; Itami, 1987; Myers, 1977). In order to test our

[12] Thus, VC-backed firms effectively drop out of the sample for all years subsequent to the year of receiving financing. This procedure is customary in empirical analysis on selection (see Chemmanur et al., 2011, for a similar procedure)

hypothesis 1, we estimate two different dynamic probit models by distinguishing among first generation and second or following generation FCBs. Results are shown in Table 2.7.

TABLE 2.7.
SELECTION BY VC/PE IN FIRST AND FOLLOWING GENERATIONS FCBS

	1^{ST} generation FCBs		Following generations FCBs	
$Age_{i,t}$	-0.1476	***	0.0049	
	(0.048)		(0.031)	
$Stage_i$	0.7407		-0.3477	
	(0.681)		(1.099)	
$Size_{i,t}$	1.6903	***	1.4261	***
	(0.395)		(0.446)	
Intangible on $Totalassets_{i,t}$	4.3178	**	5.0642	
	(1.825)		(3.831)	
$TFP\_growth_{i,t}$	-0.8429	*	0.3895	
	(0.502)		(0.977)	
d_industry	included		included	
d_year	included		included	
d_region	included		included	
N	1492		1172	
N_g	183		131	

The dependent variable is a dummy variable that equals 1 for VC-backed FCBs in the year of the initial investment, and 0 for non-VC-backed firms; $Age_{i,t}$ is the age of company *i* in year *t*; $Stage_i$ is the stage of development (i.e. early, expansion or late stage) of company *i* at the time of the initial VC round; Size is the logarithm of total assets of company *i* in year *t*; TFP $growth_{i,t}$ is the growth of total factor productivity of firm *i* in year *t*. The first column refers to the estimations based on the subsample of VC-backed FCBs in first generation. The second column refers to following generation FCBs. Estimates are derived from dynamic probit regressions. Standard errors in round brackets. ***, ** and * indicate, respectively, significance levels of <1%, <5% and <10%.

Results confirm that VC/PE investors are able to invest, among first generation FCBs, only in those with lower productivity growth, whereas this result does not hold for following generation FCBs. We interpret this evidence as a further proof of hypothesis 1. As for control variables, we find that VC/PE-

backed FCBs are larger than non-VC/PE-backed ones, in both first and subsequent generation FCBs. Focusing on first generation FCBs only, the VC/PE-backed ones are younger and have higher growth orientation. These selection criteria do not hold for following generation FCBs.

2.6. CONCLUSIONS

FCBs are the prevailing form of enterprise in the world. Nevertheless, since family shareholders are more reluctant to allow the presence of external shareholders, FCBs are underrepresented in the portfolios of VC/PE institutions. As a result, the study of VC/PE involvement in FCBs has been neglected in the literature. With this paper we intend to contribute to filling this gap. First, based on the perspective of owners' SEW, we aim to analyze why VC/PE investors are accepted as shareholders in first generation FCBs. We argue that family owners overcome their natural reluctance to accept an external shareholder, to protect their SEW, because the future of the company could be in danger. Second, we aim to analyze the impact of VC/PE involvement in FCBs in first and second or following generations. We anticipate that the value-adding effects of VC/PE involvement should be more effective in first generation FCBs, since the management culture is not as established, ownership dispersion is lower and the entrepreneurial orientation is higher than in FCBs in second or following generations.

We focus our analyses on a large sample of VC/PE-backed FCBs and non-FCBs that received VC/PE funding between 1995 and 2005. Our results show that VC/PE institutions choose first generation FCBs showing significantly

lower TFP growth levels than those found in non-FCBs or in FCBs in second or following generations. After the entry of the VC/PE investor, as expected, TFP growth is positive and significant in first generation FCBs, both in the long term and in the short term. The use of TFP allows us to control for the other possible explanation for a better performance (i.e. the funding received) of the investee firm, because we already proved that first generation FCBs were not better than the rest of the investee firms. Therefore, we can explain the higher performance by the value-adding effect of VC/PE involvement, which is effective in improving the entrepreneurial orientation of the FCB managers. In addition, we find evidence on the higher effect on performance in first versus second or subsequent generations, which could be based on the lower agency conflicts and higher entrepreneurial orientation of the former. We argue that these reasons determine more room for performance improvement in the first generation.

Our work contributes to the existing literature on FCBs in several ways. First, it increases our understanding of VC/PE involvement in FCBs, which has been neglected in the literature. Second, we provide new evidence aligned with the ideas of the SEW preservation perspective. More precisely, we provide further evidence on the greatest desire to protect SEW in first generation FCBs, which is reflected by the fact that only those showing significantly lower TFP growth levels accept VC/PE funding. This paper also provides evidence on the positive effect of VC/PE involvement in FCBs, especially when the firm is still in the first generation. Finally, the higher TFP growth levels found in first generation FCBs also provides additional evidence on the higher

entrepreneurial orientation of those firms, when compared to that of FCBs in extended generations.

The main limitation of our paper, when we test hypothesis 1, is that we do not control for first generation FCBs that seek, but fail to obtain VC/PE funding. In fact, the step in which firms decide whether to position themselves 'on the market for VC/PE' or not (Eckhardt, Shane & Delmar, 2006) may cause a self-selection bias. Unfortunately, we do not have information on whether firms asked for VC/PE without obtaining it.

For further research, it would be interesting to split the sample to analyze whether and how our results are influenced by the stake held by the VC/PE investors (i.e. separating among majority or minority shareholders).[13] In addition, our sample refers to Spanish firms. It would be of interest to test whether these hypotheses are also valid in other European countries. Finally, qualitative information about the human capital in FCBs could complete our view based on quantitative data.

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[13] In this version, we were unable to analyze this issue due to sample size restrictions.

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CHAPTER 3
INVESTMENT-CASH FLOW SENSITIVITY IN FAMILY-CONTROLLED FIRMS AND THE IMPACT OF VENTURE CAPITAL FUNDING[**]

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3.1. INTRODUCTION

Information asymmetry makes it difficult for external investors to assess the quality of investment projects or the reliability of the managers in a firm. The higher the information asymmetry the higher the risk associated to the firm and, thus, the higher the cost of external sources of funds. Information asymmetry is lower in listed firms because they are obliged to provide detailed audited accounting information regularly and to report immediately any relevant information to the market. This is not the case in privately held companies, which are more affected by the higher level of risk perceived by stakeholders that conditions the choice of financing between internally generated cash flows and outside sources of funds (Carpenter & Petersen, 2002).

The problems derived from information asymmetries that influence the choice between internal and external capital exist in both family and non-family firms. However, we choose in this work to focus on family controlled businesses (hereinafter, FCBs): Anderson and Reeb (2003) and Faccio and Lang (2002) provide evidence on the importance of FCBs among listed firms. Their relative importance is significantly higher among unlisted firms. In the most developed countries, Gersick, Davis, Hampton & Lansberg (1997) estimate that FCBs account for over two thirds of all companies and about half of a country's GDP.

The issue of financial constraints is particularly relevant in FCBs as they strongly adhere to the pecking order theory to finance their investments. First,

FCBs prefer internal financing with patient capital and lower cost of capital (McConaughy, 1999; Zellweger, 2007). Second, even though FCBs, particularly founder-controlled firms, could benefit from external financing due to their lower agency costs, the limited use by FCBs of external finance could be explained, as highlighted in the literature (e.g. Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Gómez-Mejía, Makri, & Kintana, 2010; Gómez-Mejía, Hoskisson, Makri, Sirmon, & Campbell, 2011) by the desire to preserve the socioemotional wealth (hereinafter, SEW). SEW could be defined as a behavior of family principles that 'weigh perceived threats to their endowment according to a subjective valuation of what is important to their welfare, what is already accrued, and what can be counted on' (Gómez-Mejía, Cruz et al., 2011, p. 665). Zellweger, Kellermanns, Chrisman, and Chua (2012) point out that FCBs make strategic choices that do not derive from an economic reference point or a risk-averse financial logic: as a consequence, FCBs may discard strategic investments with positive net present value if external sources of funds are required to finance them.

Nevertheless, Berrone, Cruz and Gómez-Mejía (2012) also affirm that although SEW preservation is the "higher order" reference point, when poor performance could lead to severe financial hardship to the family's standard of living, the family is forced to reconsider SEW as the primary reference point. This could lead to the acceptance of external stakeholders, such as Venture Capital/Private Equity (hereinafter, VC/PE) investors.

In this context, the aim of the paper is two-fold. First, we pretend to analyze the investment sensitivity to internally generated cash flows as a

driver of VC/PE involvement in FCBs: in particular, we argue that VC/PE will invest in FCBs when they are severely affected by information asymmetries and, as a consequence, their investments are highly driven by the availability of internal capital. Second, we pretend to ascertain to what extent VC/PE involvement contributes to reduce the dependency between investments and internal cash flow generation. We distinguish between firms in which the founding firm is running the business (first generation FCBs) and firms in descendant generations (following generations FCBs) assuming that there are subject to a different degree of information asymmetries.

We focus our analyses on a representative sample of medium sized Spanish privately held FCBs by comparing the investment cash-flow sensitivity of VC/PE-backed FCBs (that received the initial VC/PE investment between 1995 and 2006) with that of a group of non VC/PE-backed FCBs. Our comparison is based on both the pre-investment period (i.e. before the receiving of VC/PE) and post-investment period (i.e. by tracking the evolution after the entry of VC/PE).

Our paper contributes to the family business literature in several ways. First, we contribute to provide evidence on the dilemma between preserving SEW or the achievement of financial goals, highlighted by Berrone et al. (2012) as one topic in the agenda for future research in family firm literature. Second, we use a new dependent variable (i.e. the investment-cash flow sensitivity) in family-business research to measure the outcomes of decisions and actions, as suggested by Sharma, Chrisman and Chua (1997). Moreover, we provide evidence of VC/PE involvement in FCBs, which has been scarcely

addressed in the family business literature.

The rest of the paper is structured as follows. The second section develops the relationship between investments and internally generated cash flows as a driver of the acceptance of external investors. In the third section we explain why the entrance of a VC/PE firm should lead to a reduction in the dependency between investments and internal cash flows. In the fourth section we describe the data and the methodology. The results are presented and discussed in the fifth section. In the final section we conclude and highlight the contributions and agenda for future research.

3.2. THE INVESTMENT CASH FLOW SENSITIVITY

3.2.1. PREVIOUS LITERATURE ON THE INVESTMENT CASH-FLOW SENSITIVITY

In perfect capital markets investment decisions are independent from financing decisions (Modigliani & Miller, 1958) and, hence, the availability of internally generated funds would not affect the investment pattern of firms (Jorgenson, 1963; Hall & Jorgenson, 1967). In real markets, however, there are frictions such as transaction costs, agency costs (Jensen & Meckling, 1976, Fama & Jensen, 1983a) and asymmetric information (Myers & Majluf, 1984) that make it difficult for firms to access external sources of funds. Myers and Majluf (1984) highlight that firms follow a hierarchy in the access to different sources of funds (i.e. pecking order), preferring internal to external funding, and debt to equity, when external financing is necessary.

In this work we refer to the approach proposed by Fazzari, Hubbard and

Pettersen (1988). They argue that the marginal opportunity cost of internal capital is constant, whereas the debt supply curve is upward-sloping. In addition, the greater capital market imperfections the steeper the slope will become. In this context, it would be expected that investments in financially constrained firms would be more sensitive to internal cash flows. Fazzari et al. (1988) assume that firms with low dividend payouts are more financially constrained and find evidence on their higher investment-cash flow sensitivity.

It is important to observe that the approach of Fazzari et al. (1988) has been largely criticized. Kaplan and Zingales (1997, 2000) demonstrate that the profit-maximizing investment choices of firms do not imply a monotonic relationship between financial constraints and the sensitivity of investments to cash flows. They empirically test it on a subsample of the same sample used by Fazzari et al. (1988). Hubbard (1998) highlights that positive investment-cash flow sensitivity may simply derive from the lack of proper control for unobserved investment opportunities. In addition, the opportunistic behavior by managers who misuse the firm's free cash flows could cause overinvestment (Jensen, 1986) and lead to a positive relationship between investments and cash flows in the absence of financial constraints. Therefore, even though overinvestment and underinvestment problems have a different theoretical basis, they generate similar empirical effects. Vogt (1994) provides evidence that overinvestment is more common in larger firms whereas underinvestment dominates in smaller firms. Privately-held FCBs, particularly small and young firms, are most affected by information asymmetry. They are not used to periodic reporting and, hence, are less visible to external

stakeholders than listed firms. Nevertheless, as ownership and control are not generally separated, agency problems related to ownership tend to be negligible.

We control for the criticisms on Fazzari et al. (1988)'s theory in our work. First, we estimate an Euler equation, according to the model of Bond and Meghir (1994), in order to control for firms' investment opportunities. Moreover, Jensen's (1986) free cash flow argument does not hold for privately held FCBs in our sample: as ownership and control are generally not separated, agency problems tend to be negligible and free cash flow abuses on the part of owner-managers are not expected. Hence, in what follows we will interpret positive investment-cash flow sensitivity as a sign of binding financial constraints that condition the firm's investment activity of FCBs.

3.2.2. INVESTMENT CASH FLOW SENSITIVITY IN FCBS

FCBs strongly adhere to the pecking order theory (e.g., see Coleman & Carsky, 1999, Poutziouris, 2001, López-Gracia & Sánchez-Andújar, 2007) to finance their investments.

On the one hand, FCBs prefer internal financing with patient capital and lower cost of capital (McConaughy, 1999; Zellweger, 2007). The willingness to pass the business to subsequent generations creates a special incentive to manage financial capital efficiently (McConaughy & Phillips, 1999). Consequently, this demands a 'generational investment strategy that creates desirable patient capital' (Sirmon & Hitt, 2003, p. 343). Patient capital differs from the typical financial capital in the length of the time frame of

investments. Capital is committed over long periods of time without the threat of liquidation (Dobrzynski, 1993; Ward & Aronoff, 1991). Capital is typically committed by family members or others revealing the same endowment to the firm as the family itself.

On the other hand, family involvement is usually associated with lower agency problems due to the connection between ownership and management (Jensen & Meckling, 1976; Fama & Jensen, 1983b; Chrisman, Chua, & Litz, 2004), especially when the founding generation is running the business. However, even though FCBs, particularly founder-controlled firms, could benefit from external financing due to their lower agency costs (Randøy & Goel, 2003; Anderson, Mansi, & Reeb, 2003), evidence shows that, in general, those firms tend to be less indebted (Gallo, 1995; Gallo & Vilaseca, 1996; López-Gracia & Sánchez-Andújar, 2007) than non-FCBs. Moreover, on the equity side, FCBs are underrepresented in the portfolios of VC/PE investors (Martí, Menéndez-Requejo, S., & Rottke, 2013).

The limited use of external finance could be explained, as highlighted in the literature (e.g. Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2010; Gómez-Mejía, Hoskisson et al., 2011) by the preservation of the SEW as key noneconomic reference point for FCB's decision making. In fact, Zellweger et al. (2012) point out that FCBs make strategic choices that do not derive from an economic reference point or a risk-averse financial logic: FCBs may discard strategic investments with positive net present value if external sources of funds are required to finance them. In the same vein, Gómez-Mejía et al. (2007) affirm that FCBs prefer to give up to their growth opportunities if the

required funding endangers a loss in their SEW. Similarly, Poutziouris (2000) finds that the majority of UK FCBs have a propensity to retain family control across generations.

We argue that the inability or reluctance of FCBs to access external sources of funds is reflected by the dependency of investment on internally generated cash flows. Hence, our first hypothesis is:

Hypothesis 3.1: FCBs show a positive and significant dependency of investments on internally generated cash flows.

But some FCBs may fail to generate a sustainable volume of internal funds, due to an insufficient free operating cash flow, to be able to continuously invest and overcome periods of poor performance (Sirmon & Hitt, 2003). Only very large FCBs (e.g., Ford or Wal-Mart) with access to traditional capital markets are no longer dependent on the family's commitment in hard times. In this regard, Berrone et al. (2012, p. 261) affirm that 'although SEW preservation is the "higher order" reference point for the family principal, poor performance acts as an informational clue that alters the family owners' loss framing'. Berrone et al. (2012) point out that in extreme situations, (i.e. when anticipated poor performance could lead to severe financial hardship to the family's standard of living), the family is forced to reconsider SEW as the primary reference point, and this could lead to the acceptance of external sources of funds. In the same vein, Poutziouris (2000) finds that around 21.4% of UK FCBs are interested in increasing the size of the business and are willing to raise external capital to finance their expansion and diversification.

In this work, we focus on a particular type of external finance: Venture Capital/Private Equity (VC/PE). VC/PE represents a pool of capital provided by informed investors and managed by professionals to be invested in businesses with high growth potential and high risk (Sahlman, 1990), but also in established companies with stable and predictable cash flows (Amess & Wright, 2012). VC/PE institutions are considered as specialized investors able to face information asymmetries better than investment bankers and uninformed investors (Admati & Pfleiderer, 1994).

Following our reasoning, despite their natural reluctance to access external financing sources, some FCBs may approach VC/PE institutions due to their inability to finance their investments, including those required for the survival of the company, with internally generated cash flows.

Our second hypothesis follows from this discussion:

Hypothesis 3.2: *FCBs that are funded by VC/PE institutions show higher dependency of investments on internally generated cash flows than other similar FCBs prior to the VC/PE investment.*

Moreover, the degree of family identification, influence and personal investment in the firm changes as the company evolves across generations (Gersick et al., 1997; Schulze, Lubatkin & Dino, 2003). We argue that is especially in first generation FCBs that the reluctance to accept external investors is particularly high (Gómez-Mejía et al., 2007). If we add that founder-controlled firms grow faster and invest more in capital assets and

research and development than descendant-controlled firms (McConaughy & Phillips, 1999), then the higher investment-cash flow sensitivity expected in FCBs funded by VC/PE investors would be even in first generation FCBs.

Accordingly, our third hypothesis is:

Hypothesis 3.3: *First generation FCBs that are funded by VC/PE institutions show higher dependency of investments on internally generated cash flows than other similar first generation FCBs prior to the VC/PE investment.*

Regarding FCBs in second or subsequent generations, there are reasons in favor (e.g. higher agency costs due to ownership dispersion) or against (easier access to external funds from traditional sources) higher investment-cash flow sensitivity in FCBs approaching VC/PE. Therefore, in our results we will provide some exploratory evidence.

3.3. THE EFFECT OF VC/PE ON THE INVESTMENT-CASH FLOW SENSITIVITY OF FCBS

When evaluating the impact of the entry of a VC/PE investor, the first effect to be considered is the additional funds provided by VC/PE firms, which enlarge the firm's equity base and helps finance the acquisition of assets to take advantage of growth opportunities.

However, the final effect is not only related to the direct injection of funds. VC/PE investors can alleviate the problems derived from information asymmetries. They sign detailed contracts with managers and monitor their

progress closely (Admati & Pfleiderer, 1994). In addition, they provide managerial resources (Sørensen, 2007), such as assistance in designing the strategic plan or in management recruitment, and provide access to their network of contacts (Gorman & Sahlman, 1989; Sahlman, 1990; Sapienza et al., 1996). Moreover, the value added by VC/PE investors is positively perceived by other stakeholders. Megginson and Weiss (1991) report a 'certification effect' on investors whereas Sahlman (1990) and Tykvová (2006) remark an easier access to investment bankers. Therefore, in addition to the equity funding supplied, VC/PE presence also allows investee firms to raise additional funds from banks and other external investors. Hence, VC/PE involvement is expected to cause a significant reduction in the dependency of investments on internally generated cash flows. We argue that this effect should hold also when VC/PE invest in FCBs. Accordingly, our fourth hypothesis is:

Hypothesis 3.4: VC/PE investors reduce the dependency of investments on internally generated cash flows in FCBs.

In the VC/PE literature, Engel and Stiebale (2009), Bertoni, Colombo and Croce (2010) and Bertoni, Ferrer and Marti (2013) provide evidence on the significant reduction in the investment sensitivity to cash flows after the initial VC/PE investment in investee firms experiencing a rapid growth process (i.e. high technology startups and firms at the expansion stage). Since FBCs in the first generation grow faster (McConaughy & Phillips, 1999), we argue that VC/PE involvement could be insufficient to remove investment cash flow sensitivity completely in those firms. This reasoning drives us to

the following hypothesis:

Hypothesis 3.5: *VC/PE investors reduce, but do not completely remove, the dependency of investments on internally generated cash flows in first generation FCBs.*

But Manigart, Baeyens and Verschueren (2003) do not find a significant reduction in a more generalist sample including firms at different stages of development whereas Bertoni et al. (2013) find that there is an increase in the investment-cash flow sensitivity in firms that were subject to a VC/PE-sponsored buyout deal. Since descendant generation family-controlled businesses tend to be larger and more profitable than first generation ones (McConaughy & Phillips, 1999) and were basically equity financed, VC/PE investors will tend to increase their debt exposure. This strategy will be surely applied the case of majority acquisitions (i.e. leveraged buyouts). As a result, the final outcome in second or following generations is uncertain, because the investment cash flow sensitivity could either decrease in growing firms or increase in mature firms subject to a buyout. Therefore, we provide exploratory evidence on the impact of VC/PE involvement in those FCBs in second or subsequent generations.

3.4. EMPIRICAL STRATEGY

3.4.1. SAMPLE DESCRIPTION

Our empirical analyses are based on the Spanish market because there are many FCBs, nearly all of them privately-held. In addition, there is a

detailed catalogue of VC/PE deals available: www.webcapitalriesgo.com collects all individual investments carried out since 1991 on behalf of the Spanish Venture Capital Association (ASCRI) to prepare the annual reports. Since all Spanish companies are obliged to report their accounts to the Official Trade Register since 1991, there is also accounting information available on most privately-held firms. Therefore, the scope of this study focuses on VC/PE investments carried out between 1995 and 2006 to be able to have pre and post-investment observations on all investee firms. The source of accounting information is the AMADEUS Database.

According to Martí, Salas and Alférez (2011), 1,815 VC/PE investments were recorded in Spain between 1995 and 2005, including all stages but excluding financial and real estate sectors, as well as investments carried out abroad by Spanish VC/PE institutions. ASCRI/webcapitalriesgo records include 375 additional investments committed in 2006 with the same characteristics (i.e. domestic non-financial or real estate), totaling a population of 2,190 companies. We were able to identify 1,833 of them in the Official Trade Registers, but full accounting data was only available in AMADEUS on 1,660 companies.

Based on the information collected from the AMADEUS database, the firms' websites, the official corporate news releases (BORME) and press clippings, we define FCBs as those whose ultimate largest shareholder was a family, or individuals closely linked to a family group, at the time of the initial VC/PE investment. This definition is in accordance with the official family business definition given by GEEF (European Group of Owner Managed and

Family Enterprises) and FBN (Family Business Network) in 2008 and also adopted by the IEF (Family Business Institute in Spain). Based on this definition we found evidence that 346 investees were FCBs.

In order to define a control group of non VC/PE-backed FCBs, we collected the list of members for regional associations of Spanish FCBs and downloaded their accounting data from the AMADEUS database. Then we performed a propensity score matching process to select a group of similar firms with the same characteristics and probability of obtaining VC/PE funding. We obtain a total control group of 380 FCBs.

Since we base our analyses on the Euler equation, estimated with GMM (Blundell & Bond, 2000), we need at least three consecutive observations to define instruments properly. In addition, as we want to analyze the investment-cash flow sensitivity of VC/PE-backed FCBs in both the pre and post-investment periods, we only include VC/PE-backed firms for which we have accounting data across the investment year. As a result, our sample size shrinks to 469 FCBs, 151 of which are VC/PE-backed and 318 are control group (CG) FCBs.

In addition, we also consider the generation in which the FCB obtained VC/PE. Out of 151 VC/PE-backed firms, we identified 76 firms that received VC/PE when the founder generation was running the business and 75 that were funded when descendant generations were managing the company. Regarding CG firms, we use as classification reference the year of the initial investment of the respective matched VC/PE-backed pairs, classifying 165 in

first generation and 153 in descendant generations. Table 3.1. reports the distribution of VC/PE-backed and CG sample FCBs by generation, activity sector and foundation year.

TABLE 3.1.
FULL SAMPLE OF VC/PE-BACKED AND CONTROL GROUP (CG) FCBS.

	VC/PE-BACKED FCBS		CG FCBS		TOTAL	
	Nº firms	%	Nº firms	%	Nº firms	%
INDUSTRY						
Pharma and R&D	0	0.00%	5	1.57%	5	1.07%
Manufacturing	96	63.58%	201	63.21%	297	63.33%
Primary & Utilities	2	1.32%	10	3.14%	12	2.56%
Commerce	22	14.57%	49	15.41%	71	15.14%
Transport	3	1.99%	13	4.09%	16	3.41%
Hotel & Leisure	7	4.64%	8	2.52%	15	3.20%
ICT	9	5.96%	6	1.89%	15	3.20%
Other services	12	7.95%	26	8.18%	38	8.10%
Total	*151*	*100.00%*	*318*	*100.00%*	*469*	*100.00%*
FOUNDATION YEAR						
before 1960	6	3.97%	59	18.55%	65	13.86%
1960-1964	10	6.62%	43	13.52%	53	11.30%
1965-1960	11	7.28%	18	5.66%	29	6.18%
1970-1974	20	13.25%	27	8.49%	47	10.02%
1975-1979	15	9.93%	34	10.69%	49	10.45%
1980-1984	26	17.22%	34	10.69%	60	12.79%
1985-1989	29	19.21%	37	11.64%	66	14.07%
1990-1994	20	13.25%	40	12.58%	60	12.79%
1995-2000	13	8.61%	22	6.92%	35	7.46%
2001-2005	1	0.66%	4	1.26%	5	1.07%
Total	*151*	*100.00%*	*318*	*100.00%*	*469*	*100.00%*
GENERATION						
First generation	76	50.33%	165	51.89%	241	51.39%
Following generations	75	49.67%	153	48.11%	228	48.61%
Total	*151*	*100.00%*	*318*	*100.00%*	*469*	*100.00%*

Source: Based on the information collected from ASCRI, www.webcapitalriesgo.com and the AMADEUS Database.

3.4.2. MODELS AND ESTIMATION METHODOLOGY

There are different econometric models that pretend to analyze the investment-cash flow sensitivity (e.g. see Hubbard, 1998; Bond & Van Reenen, 2007). As mentioned in Section 2.1, current cash flows measures the availability of internal capital but may also be related to firms' investment opportunities. In the latter case, one cannot interpret the correlation between investments and cash flows as signal of financial constraints. Thus, the model should include some variable to control for firms' unobserved investment opportunities. For this purpose, we estimate an Euler equation, according to the model of Bond and Meghir (1994), and we insert the dummy variable d_VC_i , which indicates a family firm i that received VC/PE during its life. Conversely, d_CG_i , identifies a CG family firm i. Therefore, the econometric specification (Model 1a) we use is as follows:

$$\frac{I_{i,t}}{K_{i,t-1}} = \alpha + \gamma_1\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right) + \gamma_2\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2 + \gamma_3\left(\frac{S_{i,t}}{K_{i,t-1}}\right) + \gamma_4\left(\frac{D_{i,t}}{K_{i,t-1}}\right)^2 + \gamma_5 d\_CG_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \gamma_6 d\_VC_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \varepsilon_{i,t}, \quad \text{(1a)}$$

where $I_{i,t}$ is the level of investments in tangible and intangible assets of firm *i* in period *t*,[14] $K_{i,t}$ is the end-of-period- *t* book value of firm *i*'s total assets, $CF_{i,t}$ is firm *i*'s cash flow in period *t* after taxes but before dividends,[15]

[14] We measure investments by the increase in the book value of tangible and intangible assets net of depreciation.

[15] Other authors have used ex-dividend cash flows (e.g. Manigart et al., 2003). We opted for cash flows before dividends because our sample is composed of unlisted firms. Managers of listed firms are more constrained than those of privately held firms to avoid a reduction in the amount of dividends paid to shareholders, as this reduction may be perceived as a negative signal by investors. Conversely, in privately held firms, dividends have no signaling role and all cash flows can be reinvested if some profitable investment opportunity arises.

$S_{i,t}$ is firm *i*'s sales during period *t* and $D_{i,t}$ is firm *i*'s end-of-period- *t* total debt. All the models also include year, regional and sectoral dummies. ε_{it} is an i.i.d. error term. Table 3.2. provides a detailed description of the variables considered in this work.

TABLE 3.2.
VARIABLES DESCRIPTION

VARIABLE	DESCRIPTION
$I_{i,t}$	Increase from *t*-1 to *t* in the book value of tangible and intangible assets net of depreciation of firm *i*
$CF_{i,t}$	Cash flow of firm *i* at the end of period *t* after taxes but before dividends
$S_{i,t}$	Sales of firm *i* at the end period *t*
$D_{i,t}$	Sum of short- and long-term debt of firm *i* at the end of period *t*
$K_{i,t}$	Book value of tangible and intangible assets of firm *i* at the end of period *t*
d_VC_i	Dummy variable that equals 1 for VC/PE-backed FCBs (i.e. FCBs receiving VC/PE financing during their life)
d_CG_i	Dummy variable that equals 1 for control group FCBs (i.e. FCBs that do not receive VC/PE financing)
$d\_VC\_post_{i,t-1}$	Dummy variable that equals 1 from the year that follows the one in which the focal firm obtains the VC/PE financing up to the end of the observation period for a FCBs *i*
$d\_VC_i^g$	Dummy variable that equals 1 for VC/PE-backed FCBs (i.e. FCBs receiving VC/PE financing during their life) in generation *g* with *g* equal to G1 for first generation FCBs and FG for descendant generation FCBs
$d\_CG_i^g$	Dummy variable that equals 1 for control group FCBs (i.e. FCBs that do not receive VC/PE financing) in generation *g* with *g* equal to G1 for first generation FCBs and FG for descendant generation FCBs
$d\_VC\_post_{i,t-1}^g$	Dummy variable that equals 1 from the year that follows the one in which the focal firm obtains the VC/PE financing up to the end of the observation period for a FCBs *i* in generation *g* with *g* equal to G1 for first generation FCBs and FG for descendant generation FCBs

In particular, in order to analyze differences in investment-cash flow sensitivity among VC/PE-backed and CG FCBs before the entry of VC/PE, we estimate Model 1a by excluding the observations of VC/PE-backed firms related to the post-investment period.

If there are capital market imperfections and the external capital supply curve of FCBs is upward-sloping, we expect γ_5 and γ_6 to be positive, indicating financial constraints, respectively, for CG and VC/PE-backed FCBs. Our first hypothesis anticipates a positive slope for both groups. In addition, according to our hypothesis 2, we expect VC/PE-backed firms to be more financially constrained than CG FCBs in the pre-investment period (i.e. $\gamma_6 > \gamma_5$).

In order to test our research hypothesis 3, we modify Model 1a as follows:

$$\frac{I_{i,t}}{K_{i,t-1}} = \alpha + \gamma_1\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right) + \gamma_2\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2 + \gamma_3\left(\frac{S_{i,t}}{K_{i,t-1}}\right) + \gamma_4\left(\frac{D_{i,t}}{K_{i,t-1}}\right)^2 + \sum_{g=G1,FG} \gamma_5^g d\_CG_i^g\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \sum_{g=G1,FG} \gamma_6^g d\_VC_i^g\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \varepsilon_{i.t}, \quad (1b)$$

where the dummy variable $d\_VC_i^g$ indicates a FCB *i* in generation *g* that received VC/PE during its life, while $d\_CG_i^g$ identifies a CG FCBs *i* in generation *g*, with *g* equal to G1 for first generation and equal to FG for descendant generation FCBs. According to our research hypothesis 3, we expect first generation VC/PE-backed FCBs to be more financially constrained than CG FCBs in the pre-investment period (i.e. $\gamma_6^{G1} > \gamma_5^{G1}$).

In order to ascertain the impact of VC/PE on the investment cash flow sensitivity of FCBs we then resort to the following model (Model 2a).

$$\frac{I_{i,t}}{K_{i,t-1}} = \alpha + \gamma_1\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right) + \gamma_2\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2 + \gamma_3\left(\frac{S_{i,t}}{K_{i,t-1}}\right) + \gamma_4\left(\frac{D_{i,t}}{K_{i,t-1}}\right)^2 + \gamma_5 d\_CG_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \gamma_6 d\_VC_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \gamma_7 d\_VC\_post_{i,t-1} + \gamma_8 d\_VC\_post_{i,t-1}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \varepsilon_{i.t}, \quad (2a)$$

where $d\_VC\_post_{i,t-1}$ switches from 0 to 1 in the year that follows the one in which the focal firm obtains the VC/PE and equals 1 up to the end of the observation period. For CG firms this variable always takes value 0.

The coefficient γ_7 captures the increase in the average investment rate of a VC/PE-backed family firm in the years following the initial investment. The coefficient γ_8 measures the effect of VC/PE on the investment–cash flow sensitivity. More specifically, the effect of VC/PE on financial constraints can be gauged through a simple linear test on the parameters of the models. Indeed, after receiving VC/PE financing, internal cash flow in these firms should no longer have any effect on the investment rate (i.e., the coefficient of $CF_{i,t}/K_{i,t-1}$ should not be positive and significant). Following this line of reasoning, we performed the following Wald tests of the null hypothesis that a change in cash flow does not affect the investment rate: $\gamma_5 = 0$ for firms that did not obtain any VC/PE and $\gamma_6 + \gamma_8 = 0$ for firms that obtained VC/PE. In order to compare the investment cash flow sensitivity of VC/PE-backed firms and CG FCBs in the post-investment period we resort to the following Wald test $\gamma_6 + \gamma_8 - \gamma_5 = 0$. Finally, the effect of VC/PE on the investment level can be evaluated in a similar way by performing Wald tests of the following null hypothesis $\gamma_7 = 0$.

Similarly to what we do for Model 1, also for Model 2 we estimate a

second model (Model 2b) in order to analyze the alleged differences in the impact of VC/PE among generations of FCBs. We thus resort to the following model:

$$\frac{I_{i,t}}{K_{i,t-1}} = \alpha + \gamma_1\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right) + \gamma_2\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2 + \gamma_3\left(\frac{S_{i,t}}{K_{i,t-1}}\right) + \gamma_4\left(\frac{D_{i,t}}{K_{i,t-1}}\right)^2 + \sum_{g=G1,FG}\gamma_5^g d\_CG_i^g\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) \quad (2b)$$
$$+ \sum_{g=G1,FG}\gamma_6^g d\_VC_i^g\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \sum_{g=G1,FG}\gamma_7^g d\_VC\_post_{i,t-1}^g + \sum_{g=G1,FG}\gamma_8^g d\_VC\_post_{i,t-1}^g\left(\frac{CF_{i,t}}{K_{i,t-1}}\right) + \varepsilon_{i.t},$$

The linear combinations we resort to test to our research hypotheses are similar to those discussed for Model 2a. In particular, according to our research hypothesis 4, we are interested in estimating whether VC/PE is able to reduce investment cash-flow sensitivity in first generation FCBs.

All of the variables used in the model are normalized by the beginning-of-period-t stock of fixed and intangible assets. As firms in our sample are relatively young and small, this value is sometimes close to zero, producing extremely skewed and leptokurtic distributions of the variables. The presence of these outliers could severely bias our results. To avoid this problem, we winsorized all variables (e.g., Dixon, 1960) with a 1% cut-off for each tail. In other words, for each variable we calculated the values corresponding to the 1st and 99th percentiles of its distribution and assigned these values to all observations falling beyond them. This approach is useful because it reduces the impact of outliers and allows the use of a larger number of observations than would be possible if outliers were deleted. Furthermore, it has already been used in the investment literature (e.g., Baker & Stein, 2003), notably to assess investment–cash flow sensitivity (e.g., Cleary, 1999, 2006;

Bertoni et al., 2010).[16]

We estimate all our models for the total sample of VC/PE-backed and CG FCBs. Moreover, as robustness check for Model 1b and Model 2b, we also estimate Model 1a and Model 2a separately for first generation and descendant generation FCBs.

The main objective of the econometric analysis is to assess the "treatment" effect of VC/PE on investment-cash flow sensitivity and evaluate if this effect depends on FCB generations. In order to deal with the potentially endogenous nature of the VC/PE variable (i.e., d_VC_i) we resort to a two-step system generalized method of moments estimation (GMM-SYS, Arellano & Bover, 1995; Blundell & Bond, 1998) with finite-sample correction (Windmeijer, 2005). In addition to lagged levels of the series as instruments for first differences equations, the GMM-SYS estimator employs additional moment conditions using first differences as instruments for variables in levels. We consider covariates in the original Euler equation and all VC/PE variables to be endogenous; therefore, instruments start from t-2. In order to alleviate finite sample bias and measurement errors problems we limit the instrument set with moment conditions in the interval between t-2 and t-3 (see Bond, 2002).

Results of the Hansen statistic reported in Section 5 reassure us about the validity of the moment conditions used in all the estimations. Moreover, to evaluate the relevance of all our econometric models, we implemented the

[16] Estimates using these different cut-offs (i.e., 2% and 5%) are very close to those described in the next sections. They are available from the authors upon request.

Arellano and Bond test for first- and second-order serial autocorrelation of residuals [AR(1), AR(2)]. If ε_{it} is not serially correlated, the difference of residuals should be characterized by a negative first-order serial correlation and the absence of a second-order serial correlation. Our results confirm this (see again Section 5).

3.4.3. DESCRIPTIVE STATISTICS

In Table 3.3., we report some descriptive statistics about regression variables, growth (in terms of total assets and sales), growth opportunities (in terms of ratio between intangible assets and fixed assets) and age for VC/PE-backed and CG FCBs. Panel A refers to all FCBs while Panel B and Panel C refer to first generation and descendant generation FCBs, respectively.

TABLE 3.3.
DESCRIPTIVE STATISTICS

PANEL A: ALL FCBS

				pre VC investment period					post VC investment period				
	CG FCBs			VC-backed FCBs			VC vs CG		VC-backed FCBs			VC vs CG	
	mean	*median*	*obs*	*mean*	*median*	*obs*	*mean*		*Mean*	*median*	*obs*	*mean*	
$\left(\frac{Sales_{i,t} - Sales_{i,t-1}}{Sales_{i,t-1}}\right)$	0.203	0.031	1805	0.116	0.073	529	-0.087		0.044	0.018	975	-0.159	
$\left(\frac{Total\ assets_{i,t} - Total\ assets_{i,t-1}}{Total\ assets_{i,t-1}}\right)$	0.071	0.042	1813	0.183	0.099	529	0.112	***	0.058	0.012	975	-0.013	
$\left(\frac{I_{i,t}}{K_{i,t-1}}\right)$	0.247	0.124	2184	0.384	0.198	684	0.137	***	0.226	0.096	992	-0.021	
$\left(\frac{S_{i,t}}{K_{i,t-1}}\right)$	7.863	3.966	2184	5.334	3.516	684	-2.529	***	3.365	2.161	992	-4.498	***
$\left(\frac{D_{i,t}}{K_{i,t-1}}\right)$	1.010	0.640	2184	1.226	0.967	684	0.217	***	1.226	0.931	992	0.217	***
$\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	0.342	0.239	2184	0.273	0.226	684	-0.069	***	0.160	0.128	992	-0.182	***
$Age_{i,t}$	31.156	28.000	2184	20.265	18.000	672	-10.891	***	26.543	25.000	992	-4.613	***
$\left(\frac{Intangibles_{i,t}}{K_{i,t-1}}\right)$	0.205	0.180	2183	0.144	0.180	684	-0.061	***	0.346	0.298	992	0.142	***

***, **, and * represent statistical significance of 1%, 5% and 10%, respectively. Data are expressed in thousand € and deflated by CPI (reference year: 2005).

TABLE 3.3. (CONT.)

PANEL B: FIRST GENERATION FCBS

				pre VC/PE investment period					post VC/PE investment period				
	CG FCBs			VC/PE-backed FCBs			VC/PE vs CG		VC/PE-backed FCBs			VC/PE vs CG	
	Mean	*median*	*Obs*	*mean*	*median*	*obs*	*mean*		*mean*	*median*	*obs*	*mean*	
$\left(\frac{Sales_{i,t}-Sales_{i,t-1}}{Sales_{i,t-1}}\right)$	0.385	0.038	826	0.133	0.087	260	-0.252		0.031	0.029	471	-0.353	
$\left(\frac{Total assets_{i,t}-Total assets_{i,t-1}}{Total assets_{i,t-1}}\right)$	0.078	0.045	829	0.215	0.122	260	0.137	***	0.060	0.012	471	-0.018	
$\left(\frac{I_{i,t}}{K_{i,t-1}}\right)$	0.262	0.120	1020	0.447	0.225	339	0.186	***	0.221	0.100	480	-0.041	
$\left(\frac{S_{i,t}}{K_{i,t-1}}\right)$	9.696	4.596	1020	5.625	3.591	339	-4.071	***	3.354	2.154	480	-6.342	***
$\left(\frac{D_{i,t}}{K_{i,t-1}}\right)$	1.058	0.606	1020	1.238	1.025	339	0.180	**	1.231	0.948	480	0.173	**
$\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	0.376	0.243	1020	0.309	0.224	339	-0.067	*	0.180	0.127	480	-0.196	***
$Age_{i,t}$	24.701	24.000	1020	15.764	14.000	339	-8.937	***	22.250	21.500	480	-2.451	***
$\left(\frac{Intangibles_{i,t}}{K_{i,t-1}}\right)$	0.214	0.192	1019	0.122	0.179	339	-0.092	***	0.353	0.290	480	0.139	***

***, **, and * represent statistical significance of 1%, 5% and 10%, respectively. Data are expressed in thousand € and deflated by CPI (reference year: 2005).

PANEL C: DESCENDANT GENERATIONS FCBS

				pre VC/PE investment period					post VC/PE investment period				
	CG			VC/PE			VC/PE vs CG		VC/PE			VC/PE vs CG	
	mean	*median*	*obs*	*mean*	*median*	*obs*	*mean*		*mean*	*median*	*obs*	*mean*	
$\left(\frac{Sales_{i,t}-Sales_{i,t-1}}{Sales_{i,t-1}}\right)$	0.050	0.025	979	0.100	0.065	269	0.050	**	0.055	0.010	504	0.005	
$\left(\frac{Total assets_{i,t}-Total assets_{i,t-1}}{Total assets_{i,t-1}}\right)$	0.065	0.038	984	0.153	0.080	269	0.088	***	0.056	0.010	504	-0.009	
$\left(\frac{I_{i,t}}{K_{i,t-1}}\right)$	0.234	0.126	1164	0.321	0.176	345	0.087	***	0.231	0.089	512	-0.004	
$\left(\frac{S_{i,t}}{K_{i,t-1}}\right)$	6.257	3.566	1164	5.049	3.470	345	-1.208	**	3.376	2.176	512	-2.880	***
$\left(\frac{D_{i,t}}{K_{i,t-1}}\right)$	0.967	0.670	1164	1.215	0.887	345	0.248	***	1.223	0.905	512	0.255	***
$\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	0.312	0.234	1164	0.238	0.228	345	-0.074	***	0.141	0.128	512	-0.171	***
$Age_{i,t}$	36.813	33.000	1164	24.847	23.000	333	-11.966	***	30.568	29.000	512	-6.244	***
$\left(\frac{Intangibles_{i,t}}{K_{i,t-1}}\right)$	0.197	0.174	1164	0.166	0.182	345	-0.031		0.340	0.306	512	0.143	***

***, **, and * represent statistical significance of 1%, 5% and 10%, respectively. Data are expressed in thousand € and deflated by CPI (reference year: 2005).

We show summary statistics, such as mean, median and number of observations for CG firms and VC/PE-backed in both pre and post investment periods. Moreover, for every variable, we perform t-tests on the difference-in-mean between the group of CG and VC/PE-backed FCBs.

3.5. RESULTS

The results on the dependency of investments on cash flows in VC/PE-backed FCBs prior to the initial VC/PE investment and in similar FCBs that did not receive VC/PE are reported in Table 3.4. This table includes analyses on all sample firms (first and second columns) and separate estimations for founder and descendant generation FCBs (third and fourth columns, respectively). In Panel A we show the estimated coefficients whereas in Panel B we apply Wald tests to explore significant differences between pairs of coefficients.

When we ignore the generation in which the family was involved at the time of the initial VC/PE investment (i.e. first column), we find highly significant positive investment-cash flow sensitivity in both VC/PE and non VC/PE-backed FCBs, with the respective coefficients being 1.1203 and 0.3641. In the second column the estimations include all sample firms but separating first and descendant generation FCBs. In this case the coefficients are greater than one in FCBs that were later subject to a VC/PE investment, with the significance level being 1% in first generation FCBs and 5% in firms in following generations. Regarding CG firms, the coefficients are 0.2154 in the first generation and 0.4544 in descendant generations, with the respective significance levels being 10% and 5%. This view is completed with separate

estimations for first (third column) and descendant generation (fourth column) FCBs. The results on the first generation are similar to those of previous columns. Nevertheless, regarding descendant generations the coefficient measuring the dependency of cash flows on investments is not significant in CG firms. Therefore, regarding our first hypothesis, we find firm evidence on the sensitivity of investments to cash flows in FCBs that were later subject to a VC/PE investment and in first generation CG FCBs, but only partial evidence for descendant generation CG firms.

Even though in Panel A the coefficients reported for VC/PE-backed firms are higher than those of CG firms, we need to confirm that they are significantly different by applying a Wald test. The results are shown in Panel B. In the first column we find that the investment-cash flow sensitivity is significantly higher in FCBs that received VC/PE later than in CG FCBs when we do not separate FCBs by generation, thus confirming our hypothesis 2. When similar tests are run distinguishing between founder and descendant generation FCBs we find firm evidence that in the former the sensitivity was significantly higher in firms that were later subject to a VC/PE investment. Therefore, we also find support for our hypothesis 3.

Regarding the different sensitivity in VC/PE and CG FCBs in second or subsequent generations, we provide only exploratory evidence because there could be FCBs approaching VC/PE institutions for different reasons (e.g. finance growth or as an exit way for some/all family shareholders). When the estimation is run on all FCBs (i.e. Model 1b, in the second column) the difference is not significant whereas it is significant when the estimation is

carried out separately for descendant generation FCBs. We argue that the heterogeneity in this group would require a larger sample to be able to separate growing firms seeking financing from consolidated firms in which some or all shareholders are seeking liquidity.

The results of the impact of VC/PE involvement on the investment-cash flow sensitivity are shown in Table 3.5. There are also four columns replicating the structure of Table 3.4. Panel A shows the coefficient that measures the cash flow sensitivity interacting with dummies that represent VC/PE involvement, generation and, also, observations related to the post-investment period. In the first column we report the results of the whole sample of VC/PE and CG FCBs. We observe that the sensitivity of investments to cash flows in VC/PE-backed FCBs is 0.9328 for the whole observation period (i.e. pre and post investment period), significant at the 1% level, whereas it is negative, but insignificant, when only the post-investment period is considered. If we look at Panel B the Wald test in the first row provides evidence that there is still a significant sensitivity in VC/PE-backed FCBs, albeit with a lower coefficient. In addition, Wald tests in the second and third rows show that the sensitivity in VC/PE-backed FCBs was significantly higher than in CG firms and this difference fades away after the VC/PE entry. Therefore, when all FCBs are considered, despite the lower investment-cash flow sensitivity, the dependency is not fully eliminated in VC/PE-backed FCBs but those firms are no longer more financially constrained than other non VC/PE-backed FCBs. This provides only partial confirmation to our fourth hypothesis.

Regarding the impact on first generation FCBs, we find the results in columns 2 and 3. In Panel A the coefficient measuring sensitivity for the whole observation period is also around one and the interaction with the dummy including only the post-investment period shows negative coefficients. In this case, this reduction is significant at the 10% level only when the model is estimated only for first generation FCBs. Panel B shows similar results to those found for the whole sample (i.e. the coefficient is still positive and significant but no longer different from that found in other FCBs). Hence, even though investment-cash flow sensitivity is not fully eliminated VC/PE-backed FCBs, we find a significant reduction (albeit with low significance) that is in accordance with our fifth hypothesis.

Finally, we provide exploratory evidence on descendant generation family firms. When the whole period is considered neither VC/PE-backed nor CG FCBs show a significant sensitivity. This also happens when only the post-investment period is considered for the former. In addition, Wald tests do not show significant differences between the two groups neither before nor after the VC/PE investment.

TABLE 3.4.
FCB'S INVESTMENT-CASH FLOW SENSITIVITY IN THE PRE-INVESTMENT PERIOD

PANEL A. REGRESSION RESULTS OF VC/PE-BACKED VS. CG FCBS

Variable	Coeff.	Model 1a		Model 1b		Model 1a First generation FCBs		Model 1° Descendant generations FCBs	
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)$	γ_1	0.1471		0.1323		0.3016	**	-0.0993	
		(0.092)		(0.088)		(0.131)		(0.089)	
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2$	γ_2	-0.056		-0.0479		-0.1166	**	0.0467	
		(0.036)		(0.035)		(0.049)		(0.04)	
$\left(\frac{S_{i,t}}{K_{i,t-1}}\right)$	γ_3	-0.0033		-0.0019		-0.0093	*	0.0091	
		(0.006)		(0.005)		(0.005)		(0.006)	
$\left(\frac{D_{i,t}}{K_{i,t-1}}\right)^2$	γ_4	0.0092	*	0.0085		0.0105	**	-0.0003	
		(0.005)		(0.005)		(0.004)		(0.007)	
$d\_CG_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_5	0.3641	***						
		(0.129)							
$d\_CG_i^{G1}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_5^{G1}			0.2154	*	0.3994	***		
				(0.129)		(0.106)			
$d\_CG_i^{FG}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_5^{FG}			0.4544	**			0.2008	
				(0.181)				(0.137)	
$d\_VC_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_6	1.1203	***						
		(0.196)							
$d\_VC_i^{G1}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_6^{G1}			1.0582	***	1.0359	***		
				(0.206)		(0.179)			
$d\_VC_i^{FG}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_6^{FG}			1.2149	**			0.8816	***
				(0.483)				(0.303)	
Cons.	α	0.1883	*	0.2133	**	0.1098		0.3297	***
		(0.091)		(0.091)		(0.084)		(0.123)	
N.obs		2868		2868		1359		1509	
N. firms		469		469		241		228	
Hansen		192.227 [193]		191.809 [191]		185.448 [187]		187.370 [187]	
AR1		-5.5243	***	-5.4712	***	-3.8229	***	-4.3817	***
AR2		0.987		0.9023		0.8902		0.3686	

TABLE 3.4. (CONT.)

PANEL B. WALD TESTS: VC/PE-BACKED VS. CG FCBS

Variable	Coeff.	Model 1a	Model 1b	Model 1a First generation FCBs	Model 1a Descendant generations FCBs
	$\gamma_6 - \gamma_5$	0.7561 ***			
		0.2262			
CF(VC/PE-backed)-CF(CG) Before VC/PE entry	$\gamma_6^{G1} - \gamma_5^{G1}$		0.8428 ***	0.6365 ***	
			0.2205	0.183	
	$\gamma_6^{FG} - \gamma_5^{FG}$		0.7605		0.6808 **
			0.5412		0.2888

The table reports two-step System-GMM estimates with finite sample correction on equations 1a and 1b, using different assumptions about the structural break as presented in Section 4. The dependent variable is firm *i*'s investment ratio at time *t*. Standard errors are reported in parentheses. ***, ** and * indicate, respectively, significance levels of <1%, <5% and <10%. AR(1) and AR(2) are tests of the null hypothesis of, respectively, no first or second-order serial correlation. Hansen is a test of the validity of the overidentifying restrictions based on the efficient two-step GMM estimator. Investments, cash flows, and debt are all normalized by beginning of period level of fixed assets and winsorized at the 1% level. Pooled rows refer to coefficients which are assumed to remain constant. Columns (1) and (2) report estimations of the pre-investment period on all VC/PE-backed FCBs. Column (3) reports estimations of the pre-investment period in first generation VC/PE-backed FCBs (i.e. G1) and column (4) reports estimations of the pre-investment period in descendant generation VC/PE-backed FCBs (i.e. FG). A detailed description of independent variables is available in Table 3.2.

TABLE 3.5.
IMPACT OF VC/PE ON FCB'S INVESTMENT-CASH FLOW SENSITIVITY AND INVESTMENT RATE

PANEL A. REGRESSION RESULTS OF VC/PE-BACKED AND CG FCBS

Variable	Coeff.	Model 2a		Model 2b		Model 2a First generation FCBs		Model 2a Descendant generations FCBs
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)$	γ_1	0.1297	*	0.1359	*	0.2355	**	-0.0114
		(0.073)		(0.072)		(0.101)		(0.076)
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2$	γ_2	-0.0361		-0.0364		-0.0711	*	0.0069
		(0.028)		(0.027)		(0.037)		(0.031)
$\left(\frac{S_{i,t}}{K_{i,t-1}}\right)$	γ_3	-0.0047		-0.0038		-0.0116	**	0.0068
		(0.005)		(0.005)		(0.005)		(0.005)
$\left(\frac{D_{i,t}}{K_{i,t-1}}\right)^2$	γ_4	0.0124	**	0.013	**	0.019	***	0.0034
		(0.006)		(0.005)		(0.005)		(0.005)
$d\_CG_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_5	0.2821	**					
		(0.116)						
$d\_CG_i^{G1}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_5^{G1}			0.2371	*	0.381	***	
				(0.129)		(0.101)		
$d\_CG_i^{FG}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_5^{FG}			0.3544	**			0.1466
				(0.163)				(0.131)
$d\_VC_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_6	0.9328	***					
		(0.172)						
$d\_VC_i^{G1}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_6^{G1}			0.8765	***	1.0669	***	
				(0.176)		(0.154)		
$d\_VC_i^{FG}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_6^{FG}			0.9023	**			0.4912
				(0.428)				(0.304)
$d\_VC\_post_i\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_8	-0.3302						
		(0.249)						
$d\_VC\_post_i^{G1}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_8^{G1}			-0.2534		-0.4659	**	
				(0.26)		(0.211)		
$d\_VC\_post_i^{FG}\left(\frac{CF_{i,t}}{K_{i,t-1}}\right)$	γ_8^{FG}			-0.5044				-0.1146
				(0.502)				(0.375)

TABLE 3.5. (CONT.)

PANEL A.

Variable	Coeff.	Model 2a		Model 2b		Model 2a First generation FCBs		Model 2a Descendant generations FCBs	
$d\_VC\_post_i$	γ_7	0.0429							
		(0.045)							
$d\_VC\_post_i^{G1}$	γ_7^{G1}			-0.1074		-0.0363			
				(0.088)		(0.059)			
$d\_VC\_post_i^{FG}$	γ_7^{FG}			0.0326				-0.0154	
				(0.065)				(0.053)	
Cons.	α	0.187	***	0.1821	***	0.1426	*	0.2508	***
		(0.058)		(0.057)		(0.076)		(0.078)	
N.obs		3860		3860		1839		2021	
N. firms		469		469		241		228	
Hansen		214.080 [228]		243.789 [255]		194.554 [219]		172.373 [222]	
AR1		-7.8321	***	-7.8306	***	-5.3237	***	-5.8141	***
AR2		1.0736		1.1193		0.5917		0.8983	

TABLE 3.5. (CONT.)

PANEL B. WALD TESTS: VC/PE-BACKED VS. CG FCBS

Variable	Coeff.	Model 2a	Model 2b	Model 2a First generation FCBs	Model 2° Descendant generations FCBs
CF for VC/PE-backed firms after the entry of VC/PE	$\gamma_6 + \gamma_8$	0.5937 *** (0.1972)			
	$\gamma_6^{G1} + \gamma_8^{G1}$		0.6231 *** (0.2084)	0.601 *** (0.1486)	
	$\gamma_8^{FG} + \gamma_8^{FG}$		0.3979 (0.3281)		0.3446 (0.3083)
CF(VC/PE-backed firms)-CF(CG firms) Before VC/PE entry	$\gamma_6 - \gamma_5$	0.6418 *** (0.187)			
	$\gamma_6^{G1} - \gamma_5^{G1}$		0.6394 *** (0.1693)	0.6859 *** (0.1486)	
	$\gamma_6^{FG} - \gamma_5^{FG}$		0.5479 (0.4407)		0.3765 (0.2009)
CF(VC/PE-backed firms)-CF(CG firms) After VC/PE entry	$\gamma_6 + \gamma_8 - \gamma_5$	0.3116 (0.2276)			
	$\gamma_6^{G1} + \gamma_8^{G1} - \gamma_5^{G1}$		0.386 (0.2259)	0.220 (0.1597)	
	$\gamma_6^{FG} + \gamma_8^{FG} - \gamma_5^{FG}$		0.0435 (0.4094)		0.23 (0.2455)

The table reports two-step System-GMM estimates with finite sample correction on equations 2a and 2b, using different assumptions about the structural break as presented in Section 4. The dependent variable is firm *i*'s investment ratio at time *t*. Standard errors are reported in parentheses. ***, ** and * indicate, respectively, significance levels of <1%, <5% and <10%. AR(1) and AR(2) are tests of the null hypothesis of, respectively, no first or second-order serial correlation. Hansen is a test of the validity of the overidentifying restrictions based on the efficient two-step GMM estimator. Investments, cash flows, and debt are all normalized by beginning of period level of fixed assets and winsorized at the 1% level. Pooled rows refer to coefficients which are assumed to remain constant. Columns (1) and (2) report estimations of the pre and post-investment periods on all VC/PE-backed FCBs. Column (3) reports estimations of the pre and post-investment periods in first generation VC/PE-backed FCBs (i.e G1) and column (4) reports estimations of the pre and post-investment periods in descendant generation VC/PE-backed FCBs (i.e FG). A detailed description of independent variables is available in Table 3.2.

3.6. CONCLUSIONS AND DISCUSSION

The family business literature remarks that the preservation of SEW in FCBs leads to a limited use of external financing sources and strategic choices not always deriving from an economic point of reference. Nevertheless, when poor performance could lead to severe financial hardship for the family's standard of living, family shareholders are forced to reconsider SEW as the main reference point (Berrone et al., 2012).

Based on the investment sensitivity to internally generated resources as a reference of financial constraints in unlisted FCBs that could lead to this financial hardship, we argue that highly constrained FCBs will be more inclined to accept the entry of external shareholders such as VC/PE institutions. In addition, we aim to check to what extent VC/PE involvement does affect the existing dependency of investments on internally generated cash flows. The scope of analysis is a sample of unlisted Spanish VC/PE-backed FCBs that were subject to a VC/PE investment between 1995 and 2006. We analyze the investment sensitivity to cash flows before and after the initial VC/PE investment.

We find evidence on the significant sensitivity of investments to cash flows in all FCBs that were later subject to a VC/PE investment before the initial VC/PE investment. This dependency is also significant in first generation CG FCBs, but not in descendant generation CG FCBs. In addition, financial constraints are significantly higher in first generation VC/PE-backed FCBs than in similar CG firms. Despite their natural reluctance to accept external

shareholders we argue that those FCBs accept the entry of a VC/PE firm to carry out investments that are necessary for survival, except for a group of FCBs that are willing to access external sources to grow faster (Poutziouris, 2000). In descendant generation VC/PE-backed firms the results are not conclusive because it is more likely that some of them may approach VC/PE firms to find an exit for some/all shareholders rather than to finance growth.

Regarding the effect of VC/PE involvement on financial constraints we find that, despite the lower investment-cash flow sensitivity, the dependency is not fully eliminated in VC/PE-backed FCBs, but those firms are no longer more financially constrained than other non VC/PE-backed FCBs. This finding holds for the whole sample and for the subsample of first generation FCBs. We argue that the sensitivity is not eliminated because the presence of VC/PE investors will positively affect a growth-seeking attitude in the firm and investments will increase more than what family shareholders initially planned.

As first contribution of our paper, we provide evidence on the dilemma between the preservation of the SEW or the achievement of financial goals in FCBs. Secondly, we provide evidence on the role VC/PE investors play in alleviating financial constraints in first generation FCBs, thus contributing to taking advantage of their growth opportunities. We also contribute to overcoming the limited attention of VC/PE activity in family business literature.

The main constraint of our work is related to the limited sample of VC/PE-backed FCBs, which does not allow us to explore research questions related to financial constraints due to the heterogeneity found in FCBs (i.e.

generations, size, motivations, industries and so on) and in VC/PE approaches (i.e. startup, expansion, replacement capital, buyouts). For future research, it would be interesting to analyze financial constraints controlling for generation and type of funding. More specifically, what was the stake acquired by the VC/PE firm? Majority or minority? Was there a capital increase in the investee firm and/or did some shareholders sold their stake?

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CHAPTER 4
THE IMPACT OF VENTURE CAPITAL ON FAMILY FIRMS: EVIDENCE FROM SPAIN[***]

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4.1. INTRODUCTION

Venture capital / Private Equity [17] (hereinafter, VC/PE) represents an alternative source to finance investment opportunities for a wide variety of firms. The total amount committed in Europe rose from 3.4 billion Euros in 1988 to 43 billion Euros in 2010, with 5000 companies involved in 2010 (EVCA, 1988–2010). Even in a country such as Spain, from the decade of the 1990s when investments amounting to a few hundred million Euros were made in about one hundred firms per year (Balboa & Martı´, 2004), the yearly amount committed is around 4 billion Euros since 2005, with around 800 investments per year and an existing portfolio at the end of 2010 amounting to 19 billion Euros invested in 3261 portfolio firms (Barthel & Alferez, 2011).

The huge increase in the amounts invested also shows a change in the role played by VC/PE firms in the investee companies in Spain, following a pattern found in most European countries. In the U.S., VC was originally related to minority investments in innovative companies at the founding or early development stage (Bygrave & Timmons, 1992). The minority share of VCs tried to avoid distorting the innovative drive of the entrepreneur, which could be justified from a resource base (Florin, 2005) or an agency theory (Sapienza & Gupta, 1994) perspective. Nevertheless, the poor performance of those investments in most European countries (e.g. see returns on early stage investments in performance reports focused on different European countries, such as NVP, 1998; Guillaume, 1998; BVCA, 1998, 2009; EVCA, 2005) has led

[17] Under the term Venture capital/private equity we include investments at all stages, encompassing investments at the early, expansion and late stages.

to an increasing share of minority and majority stakeholdings in cash-generating companies mostly belonging to low technology industries (e.g. see EVCA Yearbooks, 1988–2010). In particular, 70% of the total amount invested and 15% of the number of investments in Europe were leveraged majority acquisitions (EVCA, 2010).

In addition to the funding provided, managerial support and other value-adding activities seem to explain the superior performance of VC/PE-backed firms (Sapienza, 1992; Barry, 1994). In this respect, many papers have already addressed the issue of the positive impact that VC/PE investors have on their investee firms (Alemany & Martı´, 2005; Baum & Silverman, 2004; Belke, Fehn, & Foster, 2006; Davila, Foster, & Gupta, 2003; Hellmann & Puri, 2002; Manigart & Van Hyfte, 1999).

VC/PE investors also invest in family-controlled businesses (FCBs, henceforth), which are the prevailing form of enterprise throughout the world (King & Santor, 2008; Mandl, 2008). The importance of FCBs in the literature has increased substantially in the last decade. Among the topics of interest, FCB growth and succession are recognized as the main challenges for FCBs. In this context, we argue that VC/PE may facilitate firm changes in management, organization, governance and ownership to support the FCB's survival and future performance. But little attention has been paid in the literature to the effect of VC/PE involvement in FCBs. It is accepted that, on average, VC/PE backing exerts a positive effect on investee firms. Nevertheless, the existence of different growth patterns in family and non-family investee firms has not been explored yet.

We aim to investigate to what extent the specific characteristics of FCBs cause higher or lower growth when compared to other investee firms without family-related control. Based on their determination to protect their socioemotional wealth (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007), we assume that FCBs are more reluctant to change their culture and managerial style, which is something to be expected as part of the value-adding services provided by VC/PEs. Nevertheless, the willingness to accept new strategic and entrepreneurial goals may be affected by the minority or majority share held by the incoming external investor. Along these lines, we anticipate that VC/PE investors are less able to provide managerial support when they hold a minority stake because the existing family management might be reluctant to accept changes in their own management culture. As a result, we hypothesize that they could perform worse than non-family investees.

Conversely, in FCBs where VC/PE investors acquire a majority stake, they can impose their own management style and force deep organizational changes. Therefore, the evolution of FCBs that are subject to a majority acquisition should not be statistically different from that of other non-FCBs with VC/PE backing.

The scope of the paper comprises Spanish firms that were subject to a VC/PE investment between 1995 and 2004, with our accounting data ranging from 1991 to 2007, whenever possible. By concentrating on data from only one country, we guarantee that all sample firms operate under similar constraints deriving from the institutional and legal environment (De Clerk,

Sapienza, & Zaheer, 2008).

We contribute to the literature in two ways. Most studies on FCBs are based on qualitative data, thus limiting the ability to measure the impact of sound organizational changes. In this work we base our analyses on objective quantitative data to test our hypotheses. We also contribute to the limited existing evidence on the effect of VC/PE involvement in FCBs (Debicki, Matherne, Kellermanns, & Chrisman, 2009), especially regarding key strategic decisions such as growth and succession.

The rest of our paper is structured as follows. In the following section we describe the role played by VC/PEs in investee firms. We also present our hypotheses regarding the differential effect of VC/PE investments according to the equity share they hold in investee family-controlled businesses. The third section concentrates on the description of the data and the models applied. The fourth section reports the results obtained, and the fifth is devoted to the conclusions and discussion of the main findings.

4.2. FAMILY FIRMS, VENTURE CAPITAL/PRIVATE EQUITY (VC/PE) AND ITS IMPACT ON FIRM GROWTH

4.2.1 VC/PE IMPACT ON FIRM PERFORMANCE AND GROWTH

VC/PEs offer value-adding services to the investee firms (Jain, 2001), which are not provided by other financial intermediaries such as banks or savings banks. Screening and monitoring (Baum & Silverman, 2004; Chemmanur, Krishnan, & Nandy, 2011), in addition to managerial support and

expert advice, explain the positive impact VC/PEs have on investee firm performance (Balboa, Martí, & Zieling, 2011; Croce et al., in press; Davila et al., 2003; Hellmann & Puri, 2002; Sapienza, 1992; Zahra, 1995). Proactive initiatives to create direct connections with key external stakeholders are also main VC/PE value-adding inputs (Large & Muegge, 2008). Kaserer, Achleitner, von Einem, & Schiereck (2007) summarize three areas for value creation in investee firms, namely operating/strategic value drivers, corporate governance and financial issues. The corporate governance issues include the reduction in agency costs, the mentoring activities undertaken to enlarge the network of business contacts, and the enhanced monitoring when VC/PE firms hold a majority position.

The results of most empirical studies show that VC/PE-backed companies outperform non-VC/PE-backed ones. To cite a few, Davila et al. (2003) highlight employment growth in U.S. VC/PE-backed firms. Manigart and Van Hyfte (1999) find higher growth in total assets and cash flow for Belgian VC/PE-backed companies when compared to non-venture-backed ones. Engel (2002) also finds higher employment growth rates in German VC/PE-funded firms. Bertoni et al. (2011) find similar results in Italian high-tech firms. Alemany and Martí (2005) find evidence of higher revenue, asset and employment growth in Spanish VC/PE-backed firms.

Originally, U.S. VC/PE investors focused on innovative companies that did not have access to traditional sources of funds to finance the startup and early expansion processes (Bygrave & Timmons, 1992). Asymmetric information problems are acute in those firms, thus limiting their ability to fund growth by

accessing external financing sources. VC/PEs are considered as specialized, informed investors able to address the serious information asymmetry problems found in those ventures (Chan, 1983). They exhibit outstanding screening abilities as well (Shepherd & Zacharakis, 2002; Tyebjee & Bruno, 1984). After the investment, VC/PEs develop close relationships with entrepreneurs/managers and establish tight reporting and control systems in the investee firms (Scholtens, 1999).

Despite the high risk involved, VC/PEs originally tended to hold minority stakes in those innovative early stage companies (Bygrave & Timmons, 1992) to avoid distorting the entrepreneurial drive of the managers. Minority shareholdings could be justified from two different angles. From a resource base perspective, Florin (2005) notes the importance of the relationship between founder characteristics and performance and recalls the general agreement about the idea that the founding team provides most of the experience and technological and organizational skills that drive a company's performance (e.g. see Bruno & Tyebjee, 1985; Dollinger, 1995; Dyke, Fischer, & Reuber, 1992; Siegel, Siegel, & MacMillan, 1993). From an agency theory perspective, Sapienza and Gupta (1994) point out that a significant reduction in ownership may reduce managerial incentive to work toward long-term profits.

Based on the information gathered in the screening process (Hisrich & Jancovicz, 1990; Rock, 1987) and the shareholders' agreement signed at the time of the initial investment round (Admati & Pfleiderer, 1994), VC/PEs initially trusted the capability of the investee firm managers. In addition, close

monitoring and frequent interaction between VC/PE and investee managers are usual when VC/PE investors hold minority stakes (Sapienza & Gupta, 1994), especially when firm managers have limited managerial experience (Rock, 1987). Therefore, VC/PE investors tended to be confident about the managerial team's flexibility to accept their strategic and managerial guidance. In case this assumption proved to be wrong, VC/PEs usually staged their commitments to preserve the right to abandon the project (Admati & Pfleiderer, 1994; Sahlman, 1990).

Since the late eighties, however, the investment strategy of VC/PE institutions across Europe has been remarkably different from the original pattern followed by U.S. investors. As reported in the European Private Equity and Venture Capital Association (EVCA) Yearbooks (EVCA, 1988–2010), the bulk of investments is concentrated in consolidated, large companies, mostly belonging to cash-generating low technology industries. The amounts committed to early stage innovative firms rarely exceed 10% of the total amount invested. Since the leading managerial role in consolidated firms may be played by either internal or external experienced managers, it is more likely that VC/PE investors prefer to hold controlling positions in those firms. Furthermore, the cash-generating capacity of target companies also allows for the use of debt in the acquisition of majority stakes to leverage returns (Kaplan & Strömberg, 2009), leading to a new investment category known as leveraged buyout.

The reason behind this change in the original concept of VC/PE is the significant difference in returns found between U.S. and European VC/PE

institutions investing in early stage innovative firms (Hege, Palomino, & Schwienbacher, 2004). The poor returns obtained from those investments in Europe is also confirmed in different performance surveys published by, or on behalf of, different national VC/PE associations (e.g. NVP, 1998; Guillaume, 1998; BVCA, 1998, 2009; EVCA, 2005). Wright and Chopraa (2010) affirm that buyout funds, which are only invested in leveraged buyouts, outperform any other funds related to the traditional VC/PE category. Furthermore, the pooled average return on early stage European funds created since 1980 was negative at the end of 2007.

As a result, nowadays the focus of VC/PE investments in Europe includes a limited share of minority shareholdings in innovative companies at the startup and early development stage and a large share of both minority and majority shareholdings in larger companies belonging to low technology industries, with the largest amount being allocated to buyout-type deals. In this latter group, the enhanced financial performance will be based on both financial leverage and a strategic entrepreneurial perspective leading to growth (Meuleman, Amess, Wright, & Scholes, 2009). The radical changes to be made in the firm's asset base and capital structure, however, can be carried out only when the VC/PE investor holds a majority position. In this way, the latter can apply its management culture without a potential conflict with other shareholders.

4.2.2. ROLES VENTURE CAPITAL/PRIVATE EQUITY CAN PLAY IN FAMILY FIRMS

Family-controlled businesses are the prevailing form of enterprise throughout the world. These make significant contributions to entrepreneurship and socioeconomic development in most countries. Families are the most frequent ultimate owner in non-widely held quoted corporations in Western Europe (44.3%), East Asia (37.9%), the U.S. (19.8%) and Canada (31.2%), with 56.4%, 63.2%, 28.1% and 44.6% being the share of non-widely held quoted companies in each geographic area, respectively (King & Santor, 2008). Regarding unquoted companies across Europe, about 70–80% of enterprises are FCBs (Mandl, 2008).

There is mixed evidence in the literature about the family influence on growth and performance in FCBs. On the one hand, family ownership may negatively influence firm performance because of tunneling decisions against minority shareholders (Johnson, 2000), such as transferring assets or profits to other self-owned firms, excessive family compensation, advantageous transfer prices or loans and loan guarantees. Family ownership and control may reduce the probability of a takeover, entrench poor managers and favor nepotism or the use of perquisites and private benefits (Anderson & Reeb, 2003; King & Santor, 2008; Lease, McConnell, Mikkelson, & Wayne, 1984; Stulz, 1988). These behaviors reduce firm performance (Gersick, Davis, Hampton, & Lansberg, 1997; Schulze, Lubatkin, Dino, & Buchholtz, 2001). Regarding growth, FCBs tend to be more risk averse than their non-family counterparts (Athanassiou, Crittenden, Kelly, & Marquez, 2002; Daily & Dollinger, 1991, 1992; Morck, Strangeland, & Yeung, 2000) because their

owners have most of their wealth tied to one asset (Morck & Yeung, 2003). In addition, according to behavioural theory, FCBs are likely to consider their socioemotional wealth as a key asset to protect and will therefore tend to accept strategies that imply below-target performance[18] to prevent its loss (Gómez-Mejía et al., 2007).

On the other hand, family involvement may reduce agency conflicts between managers and shareholders (Anderson & Reeb, 2003) and favor long-term strategies (James, 1999). The interest of family owners in maintaining firm control over generations, as well as reputation, altruism and longer relationships that usually characterize family owners, may also reduce agency conflicts with creditors and suppliers. Furthermore, FCBs develop a strong culture and specific values, such as group, internal, centralized and long-term orientation (Zahra, Hayton, & Salvato, 2004), which become an important strategic resource. According to the latter, FCBs are expected to outperform non-family ones.

VC/PE is an alternative source of financing that also includes value adding services. Nevertheless, FCBs often do not consider it because it implies accepting an external shareholder on the board. In addition, family shareholders feel uncomfortable with the control and reporting implications of a VC/PE relationship (Harvey & Evans, 1995), as well as with the high returns

[18] Gómez-Mejía et al. (2007) distinguish between venturing risks (i.e. those related to promising projects with uncertain returns) and performance hazard risks (i.e. greater probability of failure and below-target performance) in family firms. They affirm that: 'While family firms may avoid venturing risks, they may be willing to incur the risk of greater performance hazard in order to preserve their socioemotional wealth' (Gómez-Mejía et al., 2007, p. 107).

that VC/PE investors aim to obtain in a short period of time. Another explanation of the reluctance of FCBs to approach VC/PE investors is related to valuation. Owners in FCBs tend to add an 'emotional value' (Zellweger & Astrachan, 2008) on top of the enterprise value that a financial analyst would estimate, thus limiting the chances of reaching an agreement with the VC/PE investor.

In this context, we aim to analyze the impact of VC/PE involvement in FCBs when compared to that found in non-FCBs. Our first concern is to identify the roles to be played by VC/PE firms in FCBs, among which financing growth and solving shareholder conflicts and succession should be highlighted. Firm growth is a key strategic decision in all firms in general, and in FCBs in particular. Growth is an essential strategy when families enlarge over generations (Kellermanns & Eddleston, 2006; Poza, 1988; Ward, 1997). FCBs, however, are reluctant to carry out the necessary investments to take advantage of growth opportunities when external sources of funds are required. Family owners are usually averse to incorporating new shareholders (Ward, 1997) and also tend to avoid raising funds from financial institutions (Sonnenfeld & Spence, 1989). In addition to financing issues, FCB growth is also influenced by the inherent characteristics of the CEO, such as age and tenure, and by the degree of family influence in the firm, which is related to the number of generations involved in the business (Kellermanns, Eddleston, Barnett, & Pearson, 2008).

A second role to be played is related to succession. Ownership and management succession is one of the biggest challenges for FCBs. Succession

is something which many of them do not accomplish very well (Lansberg, 1999; Rubenson & Gupta, 1997). VC/PE may also be useful for generational transitions, with management buyouts (MBOs) and buyins (MBIs) being alternative solutions to the private FCB ownership succession issue (Howorth, Westhead, & Wright, 2004; Robbie & Wright, 1995). Intergenerational transfers are not only an ownership issue, but also a financing one. Reducing the ownership structure complexity, which can cause inefficiencies in the long run, requires funding to allow the exit of some, or all, original shareholders. VC/PE firms can play that role, buying either minority or control stakes.

Therefore, VC/PE involvement facilitates changes in the firm's organization, management, governance and ownership to support the continuity and prosperity of the company. Even minority VC/PE investments may lead to control changes within the family ownership when a family member, or a family branch, decides to sell its stake in the firm. This action usually triggers the introduction of structural changes in the organization and management of the firm, which are said to be imposed by VC/PE managers. Upton and Petty (2000) observe that VC/PEs are interested in participating in US transition financing, usually in the form of debt or preferred stock combined with sweeteners (warrants or conversion rights). They find that the successor qualification, along with the firm's strategic plans, is the key point in the VC/PE screening process of transition investments.

VC/PE involvement in FCBs may, however, be affected by the special characteristics of those firms. When we analyze the different effect that VC/PE may have on FCBs and non-FCBs, we wonder if VC/PE amplifies a FCB's

strengths or weaknesses. In addition to funding, the performance of investee firms heavily depends on monitoring and mentoring activities performed by the VC/PE investor (Sahlman, 1990). FCBs approaching VC/PE investors only for funding purposes could endanger the close relationship that is required between family and incoming nonfamily shareholders to enhance value creation.

In some cases, however, the entry of the VC/PE firm could solve the rigidities of the FCB's management culture, which could arise in FCBs affected by long tenure. Founders of FCBs who wish to build a long lasting legacy may become more conservative in their decisions because of the high risk of undertaking new entrepreneurial ventures, as well as the risk of destruction of family wealth (Sharma, Christman, & Chua, 1997; Zahra et al., 2004). Nevertheless, FCBs usually have a well-established organizational culture, which is an important strategic resource (Barney, 1986; Zahra et al., 2004). The entry of an active external shareholder with its own management culture could create a conflict. Zahra et al. (2004) argue that firm culture cannot be developed or changed quickly.

The role to be played by VC/PEs is dependent on the needs of the FCB. When a FCB contacts a VC/PE institution to fund growth, the funding itself may outweigh the value-adding reasons for approaching this type of investor. FCBs tend to be overly confident of their own management culture at this stage, but lack the funds required to carry out growth investments. Therefore, family owners would be reluctant to give away a majority stake in the company through a capital increase to raise new funds, since they would want

to retain full control of the growth process. But FCBs also approach VC/PEs to allow the exit of some family shareholders, usually selling minority stakes to external investors. Therefore, the remaining family shareholders would be inclined to continue with the traditional management culture of the firm.

Even if they hold a minority share in a FCB, VC/PEs will act as in any other investee firm, e.g. including their monitoring and value-adding activities as part of the actions taken to help increase its value. Therefore, two situations may arise. On the one hand, a conflict between the two management cultures could lead to a reduced flow of information between firm and VC/PE managers, thus limiting the ability of the latter to identify and provide solutions to problems found in day-to-day operations. On the other hand, VC/PE managers may decide to accept a leading role of the existing management culture, thus forgoing their value-adding abilities.

Therefore, the inability of VC/PE managers to implement their management culture in the investee firm, or the conflicts created with the existing management culture, may affect growth and performance. Since FCBs are known to have well-established management cultures which are not easy to change (Zahra et al., 2004), we anticipate that the management of the FCB will be more reluctant to accept changes when the VC/PE firm holds a minority stake. We also anticipate a lower VC/PE involvement in value-adding activities, which could undermine performance and growth in FCBs when compared to the non-family ones. Our first hypothesis follows from this discussion:

Hypothesis 4.1: Minority VC/PE investments in FCBs lead to slower company growth than in non-family VC/PE-backed firms.

VC/PE institutions in Europe have evolved toward investment strategies that include the acquisition of majority stakes in mature firms. We have already discussed the positive and negative effects of family ownership on business performance, with reputation being one of the noteworthy positive effects. The acquisition of majority stakes in FCBs will probably involve a radical transfer of control rights from the family to the VC/PE investor. This process may generate transition costs that could cancel out the positive influence of family reputation. Furthermore, VC/PE firms acquiring majority stakes in FCBs seem to experience great difficulties in replacing talented managers (Buttignon et al., 2005). In fact, majority acquisitions in FCBs lead to a profound change in the organizational structure, with human capital being the most sensitive area. Personnel management and control by the founders (or family members), scarce delegation and the specific business knowledge and entrepreneurial competence of the founders can complicate the transition to a majority VC/PE ownership and the development of the new organization. Many FCBs are highly dependent on the tacit knowledge of key individuals, especially family members, thus making the transfer of this knowledge a lengthy process (Howorth et al., 2004; Westhead, Cowling, & Howorth, 2001).

On the other hand, VC/PE investors can balance the high risk aversion attitudes found in FCBs (Athanassiou et al., 2002; Daily & Dollinger, 1991,

1992; Morck et al., 2000). In addition, a controlling share of the VC/PE investor facilitates a unified and determined management of the business that enables the implementation of a new management strategy. In this sense, a conflict between the previous management culture of the family and the VC/PE investor's management style is not expected to happen, and so the latter is able to add value as in any other investee firm. As a consequence, we expect no important differences between the growth of family and non-family investee firms when the VC/PE firm holds a majority stake. Therefore, our second hypothesis would be as follows:

Hypothesis 4.2: FCBs and non-FCBs selling a majority stake to a VC/PE investor do not show different growth patterns in the post-investment period

4.3. DATA AND METHODOLOGY

4.3.1. DATA AND SAMPLE SELECTION

This paper focuses on the VC/PE activity carried out in Spanish firms over a long period of time. We build the largest database of Spanish VC/PE firms ever created, for which we find and homogenize accounting and ownership data. The sources of identification of VC/PE firms are the Spanish Private Equity and Venture Capital Association and http://www.webcapitalriesgo.com. Since accounting data on Spanish firms have only been available since 1991 and we aim to analyze the period before and after the investments, we focus our research on investments made since 1995. Since we also aim to analyze

the post-investment period, we include investments carried out up to 2004. 1572 VC/PE investments were recorded in Spain between 1995 and 2004, including all stages but excluding financial and real estate sectors, as well as investments made abroad by Spanish VC/PE firms (Martí, Salas & Barthel, 2010). We were able to fully identify 1313 of those firms in the Official Trade Registers. The 259 missing firms include firms that were acquired by others before the third year, firms that disappeared before the third year and firms that never reported or changed their names. We only found full accounting data on 1138 firms, of which 494, 509 and 135 were early, expansion and late stage investments, respectively. The sources of accounting information are the AMADEUS Database, which records information on 1,202,363 Spanish firms, and the Official Trade Registers.

Early stage firms are defined as newly formed firms that raise money to complete the final development of the product or service to be distributed (seed), or that already have a product or service and are raising money to launch the manufacturing and distribution of the product (start-up). Expansion stage investments are defined as investments in existing firms with at least one profitable line of business. It is common to distinguish between development capital and replacement capital. In both cases, the VC/PE investor holds a minority position, at least initially. In the former, the company issues new shares to finance growth, whereas in the latter the VC/PE investor acquires a minority stake of existing shares to allow the exit of a group of shareholders. Late stage investments represent the acquisition of majority stakes in mature, consolidated firms, including leveraged buyouts,

management buyouts, management buyins and firms in distress. Since we aim to analyze the effect of the family management culture on the impact of VC/PE involvement, we exclude early stage investments. We assume that these newly established firms, even if they are family-owned, do not have a well-established management tradition that would explain the differences found in growth when compared to those of non-family-related companies.

The final step in the sampling process was to investigate the family or non-family nature of the remaining 644 firms at the expansion and late stages, involving both VC/PE minority and majority stakes. Our sources were the AMADEUS database, the firms' websites, the official corporate news releases (BORME) and press clippings. FCBs are defined as companies whose ultimate largest shareholder is a family or individuals closely linked to a family group. This definition is in accordance with the official definition given by GEEF (European Group of Owner Managed and Family Enterprises) and FBN (Family Business Network) in 2008 and also adopted by the IEF (Family Business Institute in Spain). Based on the firm ownership information, we classify 199 firms as FCBs, and of these 159 involve a minority stake of the VC/PE firm and 40 a majority stake. The percentage of FCBs in the full sample is 30%. This share is below the weight that FCBs have in the Spanish economy. Nevertheless, this lower presence is in accordance with the bias of FCBs against VC/PE involvement, given the reluctance of FCB shareholders to allow the entry of external investors.

In Table 4.1., Panel A shows a balanced distribution of FCBs and non-FCBs by VC/PE holding stake. The proportion of firms in which a VC/PE

investor holds a minority stake is around 80% in both groups. Panel B reports how FCBs and non-FCBs are distributed with regard to the year of the initial VC/PE investment. Panel C shows the distribution of FCBs and non-FCBs across industries, with FCBs being more focused on manufacturing than the non-family ones. Table 4.2. describes the size of the firms in the sample from three different perspectives, namely sales, employees and assets, and analyzes FCBs and non-FCBs separately. We sort all firms on the basis of the EU references for micro, small, medium and large sized firms. Regarding firms in which the VC/PEs hold a minority stake, a larger proportion of FCBs belong to the micro category. The differences are not so important in small and medium sized firms.

As regards the number of valid observations, we were able to collect data up to the third year after the initial investment for 641 firms and up to the fifth year for 412 firms in our sample.

TABLE 4.1.
SAMPLE DESCRIPTION: NUMBER OF FIRMS

PANEL A: BREAKDOWN BY VC/PE HOLDING STAKE

VC/PE HOLDING STAKE		FCBS		NON-FCBS		ALL FIRMS	
		Nº firms	%	Nº firms	%	Nº firms	%
	Minority	159	79.9	350	78.7	509	79.0
	Majority	40	20.1	95	21.3	135	21.0
Total		**199**	**100.0**	**445**	**100.0**	**644**	**100.0**

TABLE 4.1 (CONT.)

PANEL B: BREAKDOWN BY YEAR OF INITIAL VC/PE INVESTMENT

YEAR	FCBS		NON-FCBS		ALL FIRMS	
	Nº firms	%	Nº firms	%	Nº firms	%
1995	5	2.5	31	7.0	36	5.6
1996	8	4.0	33	7.4	41	6.4
1997	13	6.5	49	11.0	62	9.6
1998	34	17.1	44	9.9	78	12.1
1999	31	15.6	48	10.8	79	12.3
2000	24	12.1	65	14.6	89	13.8
2001	24	12.1	37	8.3	61	9.5
2002	14	7.0	29	6.5	43	6.7
2003	36	18.1	57	12.8	93	14.4
2004	10	5.0	52	11.7	62	9.6
Total	**199**	**100.0**	**445**	**100.0**	**644**	**100.0**

PANEL C: BREAKDOWN BY INDUSTRY

Industry	FCBs		Non-FCBs		All firms	
	Nº firms	%	Nº firms	%	Nº firms	%
Technology, Media & Telecom	16	8.0	73	16.4	89	13.8
Manufacturing	114	57.3	187	42.0	301	46.7
Primary and Energy	1	0.5	14	3.1	15	2.3
Services	68	34.2	171	38.4	239	37.1
Total	**199**	**100.0**	**445**	**100.0**	**644**	**100.0**

This table divides the whole sample of Spanish VC/PE investments conducted between 1995 and 2004, excluding early stage investments, from three different perspectives, namely the minority vs. majority stakeholding of the VC/PE firm, the year of the initial investment and the industry, and, simultaneously, by the family or non-family nature of the firm. The raw data to build the tables were collected from ASCRI, www.webcapitalriesgo.com and the AMADEUS database.

TABLE 4.2.
SAMPLE DESCRIPTION: SIZE OF FIRMS

PANEL A:
FIRMS IN WHICH THE VC/PE INVESTOR HOLDS A MINORITY STAKE

SIZE REFERENCE	FCBS		NON-FCBS		ALL FIRMS	
	Nº firms	%	Nº firms	%	Nº firms	%
Sales (Euro Million)						
Under 2	31	19.5	111	31.7	142	27.9
Between 2 and 10	62	39.0	113	32.3	175	34.4
Between 10 and 50	45	28.3	90	25.7	135	26.5
Over 50	21	13.2	36	10.3	57	11.2
Total	**159**	**100.0**	**350**	**100.0**	**509**	**100.0**
Employees (Number)						
Under 10	23	14.5	82	23.4	105	20.6
Between 10 and 50	53	33.3	119	34.0	172	33.8
Between 50 and 250	61	38.4	110	31.4	171	33.6
Over 250	22	13.8	39	11.1	61	12.0
Total	**159**	**100.0**	**350**	**100.0**	**509**	**100.0**
Assets (Euro Million)						
Under 2	18	11.3	75	21.4	93	18.3
Between 2 and 10	63	39.6	136	38.9	199	39.1
Between 10 and 43	50	31.4	97	27.7	147	28.9
Over 43	28	17.6	42	12.0	70	13.8
Total	**159**	**100.0**	**350**	**100.0**	**509**	**100.0**

TABLE 4.2 (CONT.)

PANEL B:
FIRMS IN WHICH THE VC/PE INVESTOR HOLDS A MAJORITY STAKE

SIZE REFERENCE	FCBS		NON-FCBS		ALL FIRMS	
	Nº firms	%	Nº firms	%	Nº firms	%
Sales (Euro Million)						
Under 2	6	15.0	19	20.0	25	18.5
Between 2 and 10	9	22.5	21	22.1	30	22.2
Between 10 and 50	16	40.0	32	33.7	48	35.6
Over 50	9	22.5	23	24.2	32	23.7
Total	**40**	**100.0**	**95**	**100.0**	**135**	**100.0**
Employees (Number)						
Under 10	5	12.5	16	16.8	21	15.6
Between 10 and 50	6	15.0	15	15.8	21	15.6
Between 50 and 250	14	35.0	40	42.1	54	40.0
Over 250	15	37.5	24	25.3	39	28.9
Total	**40**	**100.0**	**95**	**100.0**	**135**	**100.0**
Assets (Euro Million)						
Under 2	4	10.0	13	13.7	17	12.6
Between 2 and 10	15	37.5	27	28.4	42	31.1
Between 10 and 43	7	17.5	29	30.5	36	26.7
Over 43	14	35.0	26	27.4	40	29.6
Total	**40**	**100.0**	**95**	**100.0**	**135**	**100.0**

This table divides the whole sample into micro, small, medium and large firm categories from three different perspectives, namely sales, employees and total assets, and, simultaneously, by the family or non-family nature of the firm. All values are taken in the year of the initial VC/PE investment. The raw data to build the tables were collected from ASCRI, www.webcapitalriesgo.com and the AMADEUS database.

4.3.2. MODELS AND METHODOLOGY

We aim to test whether firm growth follows different patterns in family vs. non-family VC/PE-backed firms. We measure the impact of VC/PE investments on investee firm growth, with sales, gross margin5[19] and employment being the references to be analyzed. Therefore, the dependent variable is defined as the absolute growth per year (i.e. difference between the value at the end and at the beginning of the year) in sales, gross margin or employees, scaled by total assets at the beginning of the year.

Regarding the independent variables, we define a dummy variable, namely Family, which takes on value 1 if the investee firm was a FCB before the initial VC/PE investment, or 0 otherwise. We also include the growth in total assets (i.e. difference between the value at the end and at the beginning of the year), scaled by total assets at the beginning of the year, because the funding provided by VC/PE firms may increase the asset base to support growth, as suggested by Alemany and Martí (2005). In addition to equity or quasi-equity funding, which increases the firm's solvency, VC/PE investors provide contacts with investment bankers (Admati & Pfleiderer, 1994; Hsu, 2004; Tykvová, 2007). These contacts and the increase in equity due to the money injection by the VC/PE firm make it easier for investee firms to access bank loans in their development process (Bertoni et al., in press). In the same vein, VC/PE firms usually stage their commitments to investee firms over time

[19] Defined as the difference between sales and materials and other direct inputs used to manufacture the product or provide the service.

and syndicate follow-on investments to limit their risk exposure (Gompers & Lerner, 2001; Sahlman, 1990; Wright & Robbie, 1998). Investee firms are thus able to obtain additional funding to support the growth process over time. Therefore, growth in variables such as sales, gross margin and employment should be related to the increase in assets that results from both VC/PE funding and an easier access to other external sources of funds.

In addition to funding, the value-adding services provided by VC/PEs, such as coaching and mentoring (Gompers & Lerner, 2001; Sahlman, 1990; Wright & Robbie, 1998), also explain the better performance of investee firms. This added value can differ somewhat across investors, with the results depending on the VC/PE firm's reputation. As Balboa and Martí (2007) argue, reputation could be a proxy for the ability to raise more funds over time. Therefore, those VC/PE firms with more funds under management are expected to provide higher value to their investee firms, thus exhibiting larger growth profiles. Similarly, there is a substantial number of public-sector-backed VC/PE firms in Europe (Manigart & Beuselinck, 2001) whose managers might not have the same incentives and/or experience as their private sector counterparts. Consequently, we include VC/PE size and private vs. public-sector nature as proxies of VC/PE reputation.

Our model is represented as follows:

$$Growth\ in\ sales,\ gross\ margin,\ employment_{it} = F(Family_i,\ Asset\ growth_{it},\ Investor\ size_i,\ Private\ sector\ VC/PE_i,\ LogEmployees_{it},\ Region_i,\ Industry\ and\ Time\ dummies)$$

Family and *Asset growth* are described in previous paragraphs. *Investor size* is a dummy that takes on value 1 if the VC/PE firm had over €150 million under management.[20] Private sector VC/PE is a dummy that takes on value 1 if the VC/PE firm is private sector-backed, or 0 otherwise. We also include control variables related to the investee firm's size, location and industry, and time dummies. We measure firm size with the natural logarithm of the number of employees at the end of the year (LogEmployees). The variable Region is a dummy that takes on value 1 if the investee firm is located in a region with a per capita average income below 75% of the EU average (i.e. EU Objective 1), or 0 otherwise (i.e. developed regions). The activity sector classification (Industry) is based on NACE rev2 codes. We aggregate the four-digit NACE rev2 category into four categories, namely Primary, Low and Medium Technology Manufacturing, Low and Medium Technology Services and High Technology, and define industry dummies accordingly.

Regarding the estimation process, our data refer to time series observations on a number of unlisted firms, with some independent variables being time invariant. Accordingly, random effects panel data regressions are performed to estimate the models, because fixed effects estimation would

[20] Firms managing more than s150 million are classified as large in the Spanish Private Equity Report (Barthel & Alférez, 2011).

eliminate those variables from the analysis. Even though the individual effects found in panel datasets could be treated as fixed or random variables, Arellano and Bover (1990) affirm that we can always treat the individual effects as random variables without loss of generality.[21]

4.3.3. DESCRIPTIVE STATISTICS

Table 4.3. reports the observed growth in sales, gross margin and employees over a five-year period after the investment. Regardless of the variable considered, the average growth found in FCBs is significantly lower than that found in non-FCBs when the VC/PE firm holds a minority stake (Panel A). The greater differences are found in revenue growth. Conversely, FCBs display lower standard deviations in all variables. Panel B shows that growth rates found in FCBs when the VC/PE firm holds a majority stake are not significantly different from those of non-FCBs.

[21] An alternative approach that would address potential endogeneity concerns would include the dependent variable lagged one period as explanatory variable. Nevertheless, the estimation process of this model, based on the GMM methodology, would require at least five consecutive observations to define instruments properly, plus one more to compute growth.

TABLE 4.3.
DESCRIPTIVE STATISTICS OF GROWTH
(Normalized by total assets, in investee firms over a five year period after the VC/PE initial investment)

PANEL A:
FIRMS IN WHICH THE VC/PE INVESTOR HOLDS A MINORITY STAKE

VARIABLES	OBSERVATIONS	FIRMS	MEAN	STD. DEVIATION	MIN.	MAX.
Increase employees / Total assets						
All firms	2,497	514	0.0022	0.0071	-0.0126	0.0724
FCBs	785	160	0.0012	0.0043	-0.0126	0.0297
Non-FCBs	1,712	354	0.0026	0.0080	-0.0062	0.0724
Difference			0.0014***			
Increase gross margin / total assets						
All firms	2,497	514	0.1073	0.2644	-0.6310	2.2157
FCBs	785	160	0.0570	0.1791	-0.6310	1.0623
Non-FCBs	1,712	354	0.1303	0.2909	-0.3554	2.2157
Difference			0.0733***			
Increase gross revenues / total assets						
All firms	2,497	514	0.1810	0.4262	-1.0634	3.3700
FCBs	785	160	0.1024	0.3209	-1.0634	1.9835
Non-FCBs	1,712	354	0.2170	0.4596	-0.6108	3.3700
Difference			0.1145***			

TABLE 4.3. (CONT.)

PANEL B:
FIRMS IN WHICH THE VC/PE INVESTOR HOLDS A MAJORITY STAKE

VARIABLES	OBSERVATIONS	FIRMS	MEAN	STD. DEVIATION	MIN.	MAX.
Increase employees / Total assets						
All firms	676	136	0.0011	0.0036	-0.0049	0.0326
FCBs	210	40	0.0008	0.0025	-0.0049	0.0135
Non-FCBs	466	96	0.0013	0.0040	-0.0020	0.0326
Difference			0.0005			
Increase gross margin / total assets						
All firms	678	136	0.0770	0.1840	-0.1212	1.5441
FCBs	212	40	0.0677	0.1264	-0.0597	0.4967
Non-FCBs	466	96	0.0812	0.2036	-0.1212	1.5441
Difference			0.0135			
Increase gross revenues / total assets						
All firms	678	136	0.1294	0.2897	-0.4715	1.6227
FCBs	212	40	0.1224	0.2209	-0.1949	0.8673
Non-FCBs	466	96	0.1326	0.3148	-0.4715	1.6227
Difference			0.0102			

This table reports descriptive statistics on winsorized (1% each tail) values of the variables. Growth is estimated as the difference between the variable at the end of the year and the same variable at the beginning of the year divided by total assets at the beginning of the year. We test the null hypothesis that means are equal between VC/PE-backed FCBs and VC/PE-backed non-FCBs. ***, ** and * indicate, respectively, significance levels <1%, <5% and <10%. Six firms (five non-family) for which accounting data about the year of the initial VC/PE investment were unavailable are included in the descriptive statistics.

Regarding the independent variables, in Table 4.4. (Panel A) the size of firms when the VC/PEs take a minority stake is significantly different in FCBs and non-FCBs, with the former having a larger number of employees on average. Conversely, no significant differences are found in asset growth between both groups of firms. As for the firms in which the VC/PE firm holds majority stakes and whose statistics are shown in Panel B, no significant differences are found in size and asset growth between the two groups.

TABLE 4.4.
DESCRIPTIVE STATISTICS OF EMPLOYEES AND ASSET GROWTH

PANEL A:
FIRMS IN WHICH THE VC/PE INVESTOR HOLDS A MINORITY STAKE

VARIABLES	OBSERVATIONS	FIRMS	MEAN	STD. DEVIATION	MIN.	MAX.
LogEmployees						
All firms	2,518	510	4.0739	1.4912	0	7.9714
FCBs	801	159	4.1779	1.2867	0.4969	7.2704
Non-FCBs	1,717	351	4.0254	1.5705	0	7.9714
Difference			-0.1525**			
Asset growth						
All firms	2,502	514	0.2914	0.6038	-0.724	5.2388
FCBs	785	160	0.2397	0.4907	-0.724	3.8929
Non-FCBs	1,717	354	0.3150	0.6461	-0.724	5.2388
Difference			0.0753			

TABLE 4.4. (CONT.)

PANEL B:
FIRMS IN WHICH THE VC/PE INVESTOR HOLDS A MAJORITY STAKE

VARIABLES	OBSERVATIONS	FIRMS	MEAN	STD. DEVIATION	MIN.	MAX.
LogEmployees						
All firms	136	691	4.7144	1.6981	0	7.9714
FCBs	40	213	4.7381	1.6974	0	7.9714
Non-FCBs	96	478	4.7039	1.7064	0	7.9714
Difference			-0.0342			
Assets growth						
All firms	136	678	0.2005	0.4787	-0.7240	3.9109
FCBs	40	212	0.2542	0.6278	-0.1083	3.9109
Non-FCBs	96	466	0.1760	0.4028	-0.7240	2.8050
Difference			-0.0782			

This table reports descriptive statistics on Winsorized (1% each tail) values of the variables. LogEmployees is the natural logarithm of the employees at the end of the period. Asset Growth is estimated as the difference between the total assets at the end of the year and the same variable at the beginning of the year divided by total assets at the beginning of the year. We test the null hypothesis that means are equal between VC/PE-backed FCBs and VC/PE-backed non-FCBs. ***, ** and * indicate, respectively, significance levels <1%, <5% and <10%.

4.4. RESULTS

Table 4.5. reports the regression results of the different models that measure growth in investee firms when the VC/PEs hold a minority stake up to the fifth year after the initial investment, which is the average holding period of Spanish VC/PE investors in their portfolio firms (Barthel & Alférez, 2011). All non-dummy variables are winsorized at the 1% level in order to avoid the distortion of extreme growth rates found in some investee companies in which a large increase in volume relative to low initial values was found, or in failed firms in which the sales, gross margin or headcount were reduced to zero. Dependent variables measure growth in sales, gross margin and employees.

As expected, asset growth explains the observed growth in all dependent variables, namely sales, gross margin and employees. Asset growth in the first year is explained by the VC/PE investment, which implies an influx of money coming from an external investor to take advantage of growth opportunities.

TABLE 4.5.
REGRESSION RESULTS: VC/PE INVESTOR HOLDING MINORITY STAKES, UP TO FIVE YEARS AFTER THE INITIAL INVESTMENT

	DEPENDENT VARIABLE		
INDEPENDENT VARIABLES	SALES GROWTH	GROSS MARGIN GROWTH	EMPLOYMENT GROWTH
FCB_i	-0.0871***	-0.0530***	-0.0010**
	0.0227	0.0141	0.0004
Asset $growth_{it}$	0.4028***	0.2259***	0.0046
	0.0268	0.0132	0.0005
Private sector VC/PE_i	0.0166	0.0178	0.0005
	0.0246	0.0161	0.0005
Investor $size_i$	-0.0060	-0.0179	0.0000
	0.0285	0.0195	0.0007
$LogEmployees_{it}$	0.0461***	0.0231***	0.0015***
	0.0097	0.0069	0.0002
$Region_i$	-0.0138	-0.0236*	0.0001
	0.0239	0.0142	0.0006
Time dummies	YES	YES	YES
Sector dummies	YES	YES	YES
Intercept	0.1800**	0.1643***	-0.0013
	0.0796	0.0524	0.0017
# of observations	2,435	2,435	2,435
# of firms	506	506	506
Prob > chi2	0.0000	0.0000	0.0000

This table reports Random Effects GLS regressions. The dependent variables are growth in Sales, Gross Margin and Employees between t and t-1, scaled by total assets at time t-1. The independent variables are: (1) FCB: dummy variable that takes value 1 if the VC/PE-backed firm was a FCB, or zero otherwise. (2) Asset growth: Growth in total assets between t and t-1, scaled by total assets at time t-1. (3) Investor size: Dummy variable that takes value 1 if the lead investor had over €150 million under management, or zero otherwise. (4) Private sector VC/PE: Dummy variable that takes value 1 if the lead investor was a private sector related VC/PE firm, or zero otherwise. (5) LogEmployees: Natural logarithm of the number of employees at time t. (6) Region: Dummy that takes value 1 if the investee firm is located in a region with an average per capita income under 75% of the EU average. Robust standard errors are reported in small case. Non-dummy variables are winsorized at the 1% threshold.

* Indicates significance levels <10%.
** Indicate significance levels <5%.
*** Indicate significance levels <1%.

The dummy variable indicating whether the investee firm was a FCB exhibits a negative coefficient, as anticipated, revealing that VC/PE-backed firms owned by family groups do not grow as fast as VC/PE-backed non-FCBs do. In accordance with Hypothesis 1, these results are found in all threemodels after controlling for firm size, location, VC/PE investor size, and the private or public-sector nature of the VC/PE firm involved. Regarding firm size, the natural logarithm of the number of employees shows a positive and significant coefficient. We also control for the average personal income level of the region where the investee firm is located. In addition, the size of the VC/PE investor is also considered. We aim to control whether the value added by VC/PE firms is different in large and small institutions. As regards VC/PE goals, we also control for the private or public sector backing of the VC/PE investor. Excluding firm size, the remaining control variables are not significant, except location in one of the models, which is marginally significant.

Since our regressions are based on an unbalanced panel in which we only have five-year post-investment data on 325 firms out of the 506 firms in which the investor holds a minority stake, we develop several robustness checks. First, we estimate the model in a shorter time window, taking into account only three years after the initial VC/PE investment. The coefficients on asset growth are again highly significant, as well as slightly greater than those shown in Table 4.5. Similarly, the coefficient related to the distinction between FCBs and non-FCBs is again negative and significant. We also carried out similar regressions with a four-year time window and the results are similar.

As further checks for robustness, we perform the same regressions on all three models and all time windows from three to five years but changing the winsorizing threshold to 2 and 5%. The results are the same in all cases. Additionally, we decide to scale sales and gross margin by the number of employees at the beginning of the period, with the results also being the same. In order to control for simultaneity concerns, we also repeat the same regressions lagging asset growth and the natural logarithm of employees one period.[22] The results are the same for sales and gross margin, whereas no significant effects are found on employment growth. Finally, we replace the natural logarithm of employees with the natural logarithm of assets as control variable and repeat the previous regressions of sales and gross margin. The results remain unchanged.

As a final robustness check, we also estimate an alternative model in which the endogenous variable is defined as the difference on the variable at the end and the beginning of the year, divided by the value of the same variable at the beginning of the year. Since this definition leads to high extreme values (e.g. firms starting with very small amounts showing large growth in quantities, or failed firms showing sharp decreases), the regressions were carried out on data winsorized at the 5% threshold. The results also confirm the significantly different growth rates found in family and non-family VC/PE-backed companies. All these regressions are available upon request. To sum up, we may conclude that FCBs where the VC/PEs hold a minority stake

[22] Even though the purpose of those two variables is to control for the effect on growth of the additional funds received at the time of the initial VC round.

do not grow as much as other non-family VC/PE-backed businesses, thus verifying our first hypothesis.

TABLE 4.6.
REGRESSION RESULTS: VC/PE INVESTOR HOLDING MAJORITY STAKES, UP TO FIVE YEARS AFTER THE INITIAL INVESTMENT

	DEPENDENT VARIABLE		
INDEPENDENT VARIABLES	SALES GROWTH$_{IT}$	GROSS MARGIN GROWTH$_{IT}$	EMPLOYMENT GROWTH$_{IT}$
FCB$_i$	0.0019	0.0007	-0.0005
	0.0343	0.0230	0.0004
Asset growth$_{it}$	0.3613***	0.1930***	0.0051***
	0.0703	0.0570	0.0005
Private sector VC/PE$_i$	-0.0696	-0.0289	-0.0004
	0.0431	0.0230	0.0005
Investor size$_i$	0.0560	0.0317	0.0005
	0.0430	0.0288	0.0008
LogEmployees$_{it}$	-0.0050	-0.0076	-0.0000
	0.0130	0.0126	0.0003
Region$_i$	-0.0291	-0.0297	-0.0001
	0.0451	0.0193	0.0004
Time dummies	YES	YES	YES
Sector dummies	YES	YES	YES
Intercept	0.2963**	0.2719267**	0.0007
	0.1255	0.1307299	0.0016
# of observations	668	668	667
# of firms	135	135	135
Prob > chi2	0.0000	0.0001	0.0000

This table reports Random Effects GLS regressions. The dependent variables are growth in Sales, Gross Margin and Employees between t and t-1, scaled by total assets at time t-1. The independent variables are: (1) FCB: dummy variable that takes value 1 if the VC/PE-backed firm was a FCB, or zero otherwise. (2) Asset growth: Growth in total assets between t and t-1, scaled by total assets at time t-1. (3) Investor size: Dummy variable that takes value 1 if the lead investor had over €150 million under management, or zero otherwise. (4) Private sector VC/PE: Dummy variable that takes value 1 if the lead investor was a private sector related VC/PE firm, or zero otherwise. (5) LogEmployees: Natural logarithm of the number of employees at time t. (6) Region: Dummy that takes value 1 if the investee firm is located in a region with an average per capita income under 75% of the EU average. Robust standard errors are reported in small case. Non-dummy variables are winsorized at the 1% threshold.

* Indicates significance levels <10%.
** Indicate significance levels <5%.
*** Indicate significance levels <1%.

Regarding the regressions run on the subsample of firms in which the VC/PE investor holds a majority stake, the results for the five-year time window are reported in Table 4.6. Interestingly, the coefficient measuring asset growth exhibits a positive, significant value in all models, regardless of the dependent variable analyzed, thus supporting the strategic entrepreneurship perspective introduced by Meuleman et al. (2009). Furthermore, we do not find a significant coefficient at standard levels for the coefficient related to VC/PE-backed FCBs, in agreement with our Hypothesis 2. This finding supports the assumption that growth patterns shown by the latter are not significantly different from those found in non-FCBs. None of the firm and VC/PE control variables are significant.

Since we have only five post-investment observations for 87 VC/PE-backed firms in which the VC/PE investor holds a majority stake, out of the 135 firms in this subsample, we ran the same regressions only until the third year after the initial investment. The results show that the FCB dummy remains statistically insignificant. These results are also robust to changes in the winsorizing threshold or the consideration of a four-year time window. Similarly, the FCB dummy remains statistically insignificant when the growth in sales, gross margin and employees is scaled by the number of employees at the beginning of the period, or when asset growth and the natural logarithm of employees are lagged one period. Finally, the results also hold when the endogenous variable is defined as the relative growth of the original variable, thus confirming our Hypothesis 2.

4.5. CONCLUSION AND DISCUSSION

VC/PEs are considered as value-adding investors who contribute to the development of entrepreneurial businesses. Empirical studies usually show that VC/PE-backed firms outperform non-VC/PE-backed ones. Nevertheless, we intend to analyze to what extent the impact could differ when the investee is a FCB. There is a gap in the literature about VC/PE involvement in FCBs, which may be due to the reluctance of FCBs to accept VC/PE investors. But these specialized investors could play an important role in two critical issues, namely succession and growth. In this respect, we are interested in exploring different growth patterns in family vs. non-family VC/PE-backed firms when VC/PE investors hold either a majority or a minority position.

We hypothesize slower growth in FCBs when compared to non-family ones if the VC/PE firm holds a minority stake, and non-significant differences when the VC/PE firm becomes a controlling stakeholder in the investee firm. We expect that minority VC/PE stakes in FCBs hinder strategic decisions, because two very different management cultures overlap. In this vein, the risk aversion attitude predicted by agency theory in FCBs may create barriers for growth-oriented strategies that VC/PEs aim to develop. Nevertheless, we expect no differences with non-FCBs when the VC/PE firm takes a controlling position, since the acquirer's management tradition will replace the existing family's management culture. In this way, conflicts between both management traditions are less likely to occur, albeit the investee firm may lose part, or all, of the value related to the family reputation.

We test the hypotheses proposed on a unique sample of Spanish VC/PE investments made between 1995 and 2004. In accordance with the hypotheses proposed, our results show significant differences in the growth patterns found in family and non-family investee firms, with the latter showing statistically higher growth rates in firms where the VC/PEs held minority stakes. No differences were found between FCBs and non-FCBs' growth when the VC/PE investor acquired a controlling stake in the investee firm.

To sum up, VC/PE is an alternative way to fund FCB growth and to solve succession and other conflicts among heirs, even though the impact is lower than that found in other non-family investee firms when the VC/PE firm holds minority stakes.

The contributions of this work include the initial evidence provided about VC/PE involvement in FCBs, which has received little attention in the literature. In addition, most of the literature about FCBs is based on qualitative data. We base our analyses on a large dataset comprising both VC/PE-related and accounting data on Spanish VC/PE-backed firms, thus allowing us to test our hypotheses on a large sample based on quantitative data. Furthermore, this is the first paper that analyzes the impact of VC/PE investors in FCBs vs. non-FCBs from a quantitative perspective and also the first that studies the VC/PE involvement in Spanish FCBs. Similarities between firms in civil law countries lead us to think that these results and conclusions will be similar at least for FCBs in Continental Europe.

Our work provides evidence on the differential role played by VC/PE managers when they hold a minority rather than a majority stake in the investee firm. We find statistically higher growth rates in non-FCBs where the VC/PE investors held minority stakes, which could be explained by the inability of VC/PE managers to change the management culture when the majority shareholders belong to a family group. Therefore, VC/PE investors should carefully address the potential conflicts that may arise due to the risk adverse attitudes found in FCBs. When VC/PE majority stakes are considered, however, VC/PE managers are able to implement their management culture and, therefore, the results would not be different from those expected in other investee firms.

The implications of our research are important for both VC/PE managers and shareholders of FCBs. On the one hand, VC/PE managers should properly address the potential conflicts with the existing management team in family VC/PE-backed firms to avoid underperformance. On the other hand, FCB managers should allow VC/PE managers to provide value-adding services that could enhance growth and value at the time of the VC/PE exit. Furthermore, by accessing VC/PE institutions, FCBs may also reduce their natural risk aversion attitudes toward growth, as well as the lack of resources that could limit their ability to take advantage of growth opportunities. The presence of a VC/PE firm could also help to anticipate a planned change in the firm's ownership structure, thus reducing the problems found in FCBs in second or later generations. Buyouts also become a solution to those problems, albeit with a more radical approach.

Regarding the limitations of our paper, the size and number of observations of the sample did not allow us to check the endogeneity concerns that could arise in investee firms to provide further robustness to our findings. As a second limitation, we were unable to consider relevant variables about the national vs. international focus or the product diversification strategy of the investee firms. Finally, our work does not consider qualitative variables about the management of the FCBs involved.

For further research, it would be important to analyze the determinants of the lower growth patterns of FCBs when the VC/PE firm holds a minority stake. In addition, it should be interesting to analyze whether these findings could also be present in other developed countries.

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CHAPTER 5
CONCLUSIONS

The agenda of Family-controlled Businesses (FCBs) is dominated by socioemotional considerations and the fear of losing control of the firm leads to a reluctance towards external financing. Transparency for third parties is not practiced nor welcomed. This limits financing to internally generated resources. But FCBs do face two main challenges, namely growth and succession.

The financing of growth investments is somewhat limited by information asymmetries and agency costs when it cannot be obtained from internal resources. VC/PE institutions are specialized investors that seem to be an adequate partner for funding growth in FCBs, reducing their financial constraints. Furthermore, it is widely accepted that they introduce different value-adding activities to FCBs, such as networking and contacts with banks, suppliers and clients. Nevertheless, existing evidence maintains that FCBs are underrepresented in the portfolios of VC/PE investors.

Although research about growth in FCBs is rich, most studies are based on qualitative data. In some way they are insufficient to provide evidence on the motives of FCBs to approaching external sources of funds. Only few papers include the financing decision with VC/PE-investors and mainly focus on later stage investments. In addition, there is a lack of attention on the effect of VC/PE involvement in FCBs. This study includes contributions that help in filling these gaps.

This study aims to highlight the motives for family principals to set different preferences between socioemotional "family" issues and financial

considerations. Depending on economic conditions different settings of these preferences are expected. Recent literature provides evidence that reluctance to receive external financing is highest in the first generation. Only in the case of poor performance financial considerations become more salient. In the first two empirical works of this thesis we assume that only first generation FCBs with low performance are more likely to approach VC/PE investors.

Secondly, we expect a positive effect of VC/PE involvement in FCBs, as in any other firm. Nevertheless, we anticipate that the impact of investors' involvement in FCBs could change depending on the minority or majority shareholding of VC/PE firms. A minority stake might not allow them to carry through necessary changes to lead the firm to new growth paths, whereas a majority stake enables them to do so with the necessary power to decide and select adequate growth strategies.

The central hypotheses are tested in three different empirical exercises and are focused on unlisted Spanish FCBs in first and later generations. The data for the VC/PE investments were obtained by the Spanish Venture Capital and Private Equity Association (ASCRI) and www.webcapitalriesgo.com. The accounting and ownership information was taken from the AMADEUS Database and the official Trade Registers. Additionally, a sample of non-VC/PE financed FCBs was taken from the AMADEUS Database.

The empirical results confirm the central research hypotheses undertaken in this work. In the first study, total factor productivity is analyzed before the entry of the VC/PE firm for a large representative sample of Spanish FCBs and

non-FCBs that received VC funding between 1995 and 2005. The generation in which the FCBs received VC/PE financing is taken into consideration. The empirical results show lower total factor productivity growth in first-generation FCBs that later receive VC/PE. On the contrary, this is not found for later-generation FCBs. These findings confirm the higher reluctance of first generation FCBs to accessing external sources of funds, due to the desire to protect their socioemotional wealth. In this way, utility preferences are changed with poor performance and family goals do not prevail over financial goals.

Nevertheless, more research is required on this issue because VC/PE institutions show superior screening abilities and would not invest in poor performing firms. We then looked at the measure we used (productivity) and we argue that poor productivity growth could be caused by an imbalance between inputs and outputs (i.e. an increase in inputs to fuel growth did not lead to a similar increase in outputs). In this way, low productivity growth could be indicating that those FCBs accessing VC/PE could be financially constrained, as already proved in non-FCBs. This issue is addressed in the second empirical contribution, where financial constraints are tested as a motive for FCBs to approach VC/PE financing. The results of the previous study are confirmed in this second work. To include firms' unobserved investment opportunities estimations are based on the Euler equation, according to the model of Bond and Meghir. Significant dependency of investments to cash flows is found to be higher in FCBs that later receive VC/PE financing. In addition, first generation FCBs that receive VC/PE later

seem to be more financially constrained than their first generation non-VC/PE-backed counterparts. Nevertheless, no significant differences are found in later generation FCBs. Thus, the hypotheses about financial constraints as a motive for FCBs to approach VC/PE are confirmed, despite the reluctance of first generation FCBs to lose control.

In addition, the first two empirical works also show that VC/PE involvement exerts a positive effect on first generation FCBs. Productivity growth is significantly increased by VC/PE firms in first-generation FCBs, whereas no significant changes are found in later-generation FCBs. Similarly, in the second work we find that VC/PE financing alleviates financial constraints in first generation FCBs, whereas it does not happen in descendant generations.

The third study considers the behavioral results of the first two exercises but focuses on the impact of VC/PE on investee firm's performance. Contrary to the first two studies, the third study is based on the investors' perspective. As targeted, key circumstances are analyzed to identify distinctive drivers of investors' influence. Based on the previous results and recent findings in literature a key role was assumed for the size of investors' share in the investee firm. We argue that majority or minority shareholdings controlled by VC/PE institutions would lead to a strong or weak influence, respectively, of VC/PE managers over FCB managers. More precisely, depending on their share in the FCB, the VC/PE investor could impose or not their management culture over the family's management culture. Early stage investments were excluded from the analyses because family management culture is not believed to be

strongly developed yet. We measure growth in sales, gross margin and employment in the empirical model. As expected, we find that VC/PE-backed FCBs grow less than non-FCBs also backed by VC/PE investors when the latter hold minority shareholdings. Conversely, no significant differences are found in the case of VC/PE firms holding majority shareholdings.

This work contributes to the previous literature in several ways. Firstly, it develops a young stream of literature including behavioral and corporate finance issues in FCBs. The prevalence of socioemotional wealth preservation over financial goals is highlighted in FCBs. But this prevalence changes when firm survival is at risk. We provide insights on the motives family principals have to approaching external investors. As first reason we highlight low productivity, which could be explained by an imbalance between inputs and outputs. This is a starting point to the challenging development of the investigation of thresholds for families and their principals to change from family to financial goals in their utility functions. It also gives new insights on FCBs' research across generations.

Secondly, from the investor's perspective, we provide evidence that only with a majority stake the investor is able to implement the necessary changes required in the management culture to enhance firm value. A strong family agenda impedes the impact of value-adding capacities of VC/PE investors when the latter act as a minority shareholder. Hence, it sheds light on the difficulties VC/PE investors may face when investing in FCBs.

Future research should investigate further the reason why FCBs approach

or not VC/PE institutions, with a generational perspective, completing the initial evidence found in our empirical works. Similarly, as the number of minority investments increases in recent periods the role of contracting should be taken into consideration for further studies. The role VC/PE institutions can play depends on the strength of their influence. If contracts are developed in this context this might enhance probability of success of minority investments.

As main limitations, we should mention that the scope of this study is limited to only one country. Even though this approach reduces heterogeneity across sample firms and the impact of environmental issues, sample size is not large enough to provide more evidence on the research questions analyzed.